DEPARTMENTS OF TRANSPORTATION, AND HOUSING AND URBAN DEVELOPMENT, AND RELATED AGENCIES APPROPRIATIONS FOR 2011

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENTS OF TRANSPORTATION, AND
HOUSING AND URBAN DEVELOPMENT, AND
RELATED AGENCIES APPROPRIATIONS

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Subcommittee Staff

PART 6

ADDITIONAL QUESTIONS AND MATERIALS FOR THE RECORD

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ADDITIONAL MATERIALS FOR THE RECORD

MAINTAINING A SAFE & VIABLE AVIATION SYSTEM

MARCH 18, 2010

HISPANIC RECRUITMENT

The FAA is participating in the following outreach and recruitment activities to increase the applicant pool of the number of Hispanics.

COMMUNITY OUTREACH

Hispanic Association of Colleges and Universities (HACU)

- Since 1994, FAA has hosted 528 interns and hired 57 into full-time positions.
- Last summer, 14 Hispanic National Internship Program (HNIP) interns were assigned to work within various FAA organizations.
- This summer, 10 students will be selected for FAA internships.
- FAA will be participating in the 2009 HACU Annual Conference this October in Orlando, FL.

Outreach to Hispanic American Veterans

- FAA attended the League of United Latin American (LULAC) Conference in Orlando, FL co-sponsored by the U.S. Department of Veterans Affairs, LULAC, and the American GI Forum.
- FAA attended the LULAC Veterans Summit in San Antonio, TX in January 2008 and highlighted employment opportunities for Air Traffic Controllers.

National Hispanic Coalition of Federal Aviation Employees (NHCFAE)

- FAA's Assistant Administrator for Civil Rights (ACR-1) briefed the members of NHCFAE during their Annual Training Conference in San Juan, Puerto Rico, on July 10, 2008.
- The FAA collaborates and coordinates recruiting events, seeking Hispanic applicants with the NHCFAE when possible.
- The FAA will be attending this conference in Chicago, IL. July 2009.

USDA-HACU Career Fair

- The US Department of Agriculture (USDA) and HACU hosted a student career fair in Washington, DC last July.
- The fair was attended by a large number of Hispanic college students and prospective applicants interested in FAA career and internship opportunities
- The FAA will participate again in this event in 2009.

Society of Mexican American Engineers & Scientists (MAES) 2008 International Symposium & Career Fair in Las Vegas, NV.

Annual LULAC National Convention

- FAA attended the 79th LULAC National Convention in Washington, D.C. last July and will participate in the 80th LULAC National Convention in San Juan, Puerto Rico this summer.

National Image Inc. Conference, Las Vegas, NV April 2008.

FAA National and Regional (Hispanic Employment Program) HEP Manager Initiatives

- FAA Human Resources and Office of Civil Rights participate in a variety of outreach events and activities to support the HEP.
- Examples include:
    1. Vaughn College of Aeronautics and Technology Career Fair, New York, NY, a Hispanic Serving Institution (HSI).
    2. Society of Hispanic Professional Engineers Inc., Philadelphia, PA
    3. University of Texas - San Antonio - Career Fair, May 2008

RECRUITMENT

- FAA participated in well over 60 different recruitment outreach events in FY 2008 and over 70 so far in FY 2009. FAA participated with DOT in the One-DOT Recruitment efforts nationwide.

- Three of the 31 Air Traffic Collegiate Training Initiative (AT-CTI) schools are Hispanic Serving Institutions (HSI's).

- The Air Traffic Organization (ATO) Outreach Program provided funds for recruitment advertisements in Latina Magazine and Atlanta Latina.

- FAA posts ads in magazines, newspapers and on recruitment websites such as Careerbuilder.com, Aviationemployment.com, Monster.com, Ihaveadreamjob.com and Migente.com

- Recruitment materials include flyers and brochures that give a summary of the agency's major occupations, some translated in Spanish; and a recruitment CD, which features FAA employees' testimonials about their experience working at the agency.

- Recruitment dioramas have been posted in major airports throughout the country.

- Other student educational employment and internship programs with significant Hispanic participation include:
    1. DOT and FAA Summer Employment Programs
    2. DOT Workforce Recruitment Program
    3. DOT Summer Transportation Internship Programs for Diverse Groups
    4. FAA Student Intern Program
    5. Employment of Persons with Disabilities

ATC TRAINING PROCESS

The primary goal of the FAA's technical training and development is to ensure that our air traffic controllers have all the necessary skills and behaviors to perform their jobs effectively and maintain the safety of the NAS. As we continue to replace large numbers of controllers retiring over the next decade, effective training is a key factor in completing a smooth transition and maintaining the FAA's role as the premier air traffic service provider.

The FAA has significant capabilities both at the FAA Academy and in the field to meet the demands for initial certification, refresher, proficiency, skills and remedial training. The FAA continues to invest in making training more effective by gearing it toward the skills needed for successful career-long development. From better screening for new recruits to improved course design and advanced simulation, the agency is building the controller workforce of the future.

THE TRAINING PROCESS

The training process begins at the FAA Academy in Oklahoma City. Developmental controllers learn the fundamentals of air traffic control for their particular option: en route, tower or terminal radar. After successfully completing academy training, developmental controllers report to their assigned field facility to continue their training.

During the training process at field locations, developmental controllers achieve certification on each position as they move through the stages of training. Developmental controllers who fail to certify may be removed from service or reassigned to a less complex facility in accordance with agency procedures. The ultimate goal of the training program is for the controller to achieve certification on all positions and attain CPC status.

Developmental controllers who have certified on control positions can work independently on those positions without an on-the-job training instructor. Facilities often allow developmental controllers to work under the direction of a supervisor in order to gain experience and to supplement staffing.

The on-the-job training process is designed to provide developmental controllers sufficient seasoning time as well as opportunities to develop their skills as they progress towards becoming CPCs.

This process results in a more-seasoned trainee. However, no trainee works live traffic independently until the controller has been certified to work that traffic position. Safety is the FAA's No. 1 priority.

CONTROLLER CREDENTIALING

FAA's Air Traffic Safety Oversight office issued almost 15,000 credentials for current air traffic controllers for the first time in FY 2008. The credentialing program was designed to increase safety through regulated standards for training, testing, currency and proficiency. The credentialing program recognizes the technical achievements of FAA personnel who perform direct safety-related functions for the flying public. The credentialing program is designed to ensure that all controllers have and maintain the necessary skills to perform their duties.

Credentialing is a part of the FAA's larger safety continuum of standards, certification and continued operational safety.

Controllers must hold FAA-issued credentials with rating(s) for their facility to perform direct safety related air traffic control services. Credentials are facility-specific, based upon the functions of the facility. Credential ratings are issued when an employee certifies on their first control position with the area of specialty. Each employee is assigned a credential number when they receive their first rating. This number will transfer with them and all ratings achieved during their FAA career are recorded. The credential rating(s) must be renewed every two years. A secure on-line system stores all the credentialing records.

REDUCED TRAINING TIME

The FAA continues to make progress toward the established goals to reduce training time for terminal and en route controllers. It no longer takes from three-to-five years to fully train an air traffic controller. Depending on the complexity of the facility, controllers are now being trained in two-to-three years. The FAA achieved this reduction not by cutting training time, but by improving the training and scheduling processes, and through increased use of simulators.

The FAA works constantly to increase capacity at the FAA Academy and improve basic courses. The combination of efforts results in controller developmentals completing training faster. At the academy, developmental controllers must demonstrate the necessary academic knowledge and controller skills demanded by the air traffic control profession.

Simulators in air traffic facilities are reducing on-the-job training time. Use of this training resource also frees instructors to control traffic.

TABLE 7.1 Years to Certify

Fiscal Year	En Route	Terminal	Overall
2005	4.1 years	3.1 years	3.9 years
2006	3.7 years	2.7 years	3.6 years
2007	3.1 years	1.9 years	2.8 years
2008	2.6 years	1.1 years	1.7 years

NATIONAL TRAINING DATA TRACKING SYSTEM

The FAA's national training database for en route and terminal training provides training histories of developmentals as well as reports on completions, developmentals in training, and failures. The database tracks controller training through certification and provides a timely picture of the FAA's controller training progress. The database is used by multiple organizations within the FAA for monthly training and failure reports.

Developmental controllers go through various stages of training at their facilities with a maximum number of days allotted for each stage. The FAA's goal is to have 90 percent of controller developmentals on track with training. Developmental controllers are considered to be on track when they progress through the required stages at or below the allotted number of days. Developmentals who exceed the allotment are monitored by both the facility and headquarters.

KNOWLEDGE TRANSFER

Today, the FAA brings in retired FAA air traffic controllers as contract instructors to train the new workforce. By harnessing their valuable air traffic expertise, these experts can focus solely on training the next generation of controllers, rather than moving back and forth between working traffic and on-the-job training.
With these improvements and our comprehensive focus on training, the FAA is confident that the agency will be able to successfully train the number of controllers needed to staff the NAS.

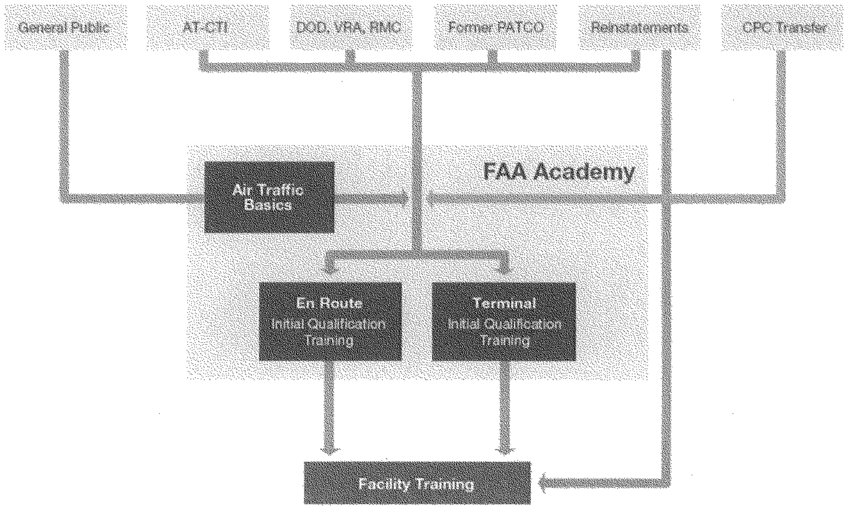
MULTI-PATH HIRING AND TRAINING MODEL

The multi-path hiring and training model provides a comprehensive view of how controller applicants move through the hiring, screening and training process.

The multi-path training program was designed to accommodate newly hired individuals with a variety of education and experience. The goal of this training program is to provide air traffic facilities with developmental controllers prepared to begin training at the facility.

The FAA can hire controllers from multiple sources. The training process for newly hired controllers differs depending on applicant qualifications and the type of facility assignment. The amount and type of training required depends on the applicant's education, experience and type of facility the new hire will be assigned to support. Figure 7.2 provides a high-level overview of the training process, outlining the different paths of training for new hires.

Table 7.2 Multi-Path Model for AT Controller Training



ACADEMY TRAINING

The FAA Academy trains developmental controllers using lecture, computer-based instruction, medium-fidelity simulation, and high-fidelity simulation. The academy lays the foundation for developmental controllers by teaching fundamental air traffic control procedures that are used across the country. The focus of the academy is to improve the efficiency of the training by using proven adult learning concepts with the latest in simulation technology. When developmental controllers graduate from the academy, they are prepared to adapt to their assigned facility and successfully complete the training required to reach CPC status.

FACILITY TRAINING

After graduating from the FAA Academy, facility training begins in the classroom where developmental controllers learn facility-specific rules and procedures. Often times, these rules and procedures are practiced in simulation. After classroom and simulation training is complete, a developmental will begin on-the-job training on an operational position. This training is conducted by CPCs who observe and instruct developmental controllers as they work the control position. Each control position has a minimum and maximum number of on-the-job training hours allotted. Based upon the recommendation of the training team, a developmental can be certified by the supervisor on a control position anywhere between the minimum and maximum number of hours.

Developmental controllers achieve certification on each position as they move through the stages of training. The final result at the end of training is achieving certification on all positions, or CPC. A developmental controller who fails to certify can be removed from service, or reassigned to a less complex facility in accordance with agency procedures.

The on-the-job training process is designed to provide developmental controllers sufficient seasoning time and opportunities to develop their skills as they progress toward becoming CPCs.

FAA ORDER 3120.4

All controller training requirements are standardized and detailed in FAA Order 3120.4, Air Traffic Technical Training. Facility training is conducted in stages and consists of a combination of classroom, simulation and on-the-job training. Each stage of training represents a different control position, or group of control positions, depending upon whether the facility is en route or terminal. Certification is required at the end of every training stage. Developmentals cannot work live traffic until they have been certified on the appropriate position.

The agency is in final review of a newly rewritten technical training order to incorporate checklists of controller tasks into the on-the-job training program. These checklists will be used to make sure on-the-job training is consistent across the nation.

ACADEMY SIMULATORS

In 2008, the FAA vastly increased the terminal simulation capability at the FAA Academy by installing six new high-fidelity tower simulators, providing a realistic tower environment in which to teach new controllers. The agency also installed a state-of-the-art en route training lab at the FAA Academy. The lab simulates the air traffic control technology currently in use in FAA en route facilities and provides unique training opportunities. The FAA has been using tower simulators for training in Chicago, Miami, Phoenix and Ontario, Calf. since 2006. In December 2007, the FAA awarded a contract to provide another 18 simulators to field facilities in FY 2008 and FY 2009. Current plans are to deploy these simulators at key locations such as Los Angeles, New York, Atlanta, Dallas and Fort Worth, Texas.

Windmills Near Burke Lakefront Airport, OH

The Federal Aviation Administration has conducted an aeronautical study (2009-WTE-933-OE) of one wind turbine generator (WTG) at a height of 450 feet above ground level (AGL), 1,083 feet above mean sea level (AMSL), approximately 2.13 nautical miles (NM) northwest of the Cuyahoga County Airport (CGF) reference point and 8.16 NM southeast of the Burke Lakefront Airport (BKL) reference point.

The study has found that the structure exceeds Title 14, Code of Federal Regulations, Part 77 obstruction standards and would require an increase in the Minimum Descent Altitude (MDA) at BKL from 1,400 feet AMSL to 1,500 feet AMSL.

The FAA has determined the proposed WTG could be erected today at a height of 403 feet AGL, 1,036 feet AMSL. Further, if the proponent agrees to submit a "2c" survey, the FAA could approve a WTG at that location at a height of 417 feet AGL, 1,050 feet AMSL.

A Notice of Presumed Hazard letter serves as the FAA's first attempt to negotiate with a proponent the height at which a structure would not have an adverse impact to air navigation. Further discussion with the FAA can be initiated at the proponents request by contacting the FAA obstruction evaluation specialist or the office of System Operations Airspace and Aeronautical Information Management, Obstruction Evaluation Services Team.

While further discussion cannot guarantee a resolution favorable to the proponent, the FAA will consider all mitigation proposals in an attempt to allow for a structure on the ground that would not adversely impact aviation.

Trainee Status at LAX

With 38 fully certified (CPC) controllers and 55 total employees, staffing levels at Los Angeles International Airport (LAX) are well within its prescribed range of 35-43. The FAA is closely monitoring the progression of developmentals at this facility.

LAX is a very complex, high volume Level 11 airport traffic control tower. Historically, these types of facilities only received CPC transfers, and subsequently, have training programs that favor transfer employees rather than new hires with limited air traffic experience.

In 2007, we hired 12 controllers, some with military experience (under the Veterans Recruitment Appointment or VRA program) and others from the Collegiate Training Initiative (CTI). Six of those 12 made it to full certification at the CPC level. We hired another eight VRA and CTI applicants in 2008 and to date, one has certified through Ground Control. The others have only certified through clearance delivery. We have placed another seven hires into the facility in 2009; these hires have not yet had time to certify on a position.

To address the challenges new hires face in achieving certification at LAX, FAA will be implementing a new training strategy. Soon, half of the trainees will begin on local control training after they certify through clearance delivery. This will prevent the backup of training on ground control and allow for more hours of on-the-job-training per day.

In addition, we have purposefully increased the staffing at the lower level facilities in the area. Often, FAA will place some controllers in lower level facilities for them to become better acquainted with the air traffic control environment. Once they become more familiar, they are in a better position to succeed at larger, and generally more complex, facilities. We are actively exploring options for recruiting experienced CPCs from those facilities to bid up or transfer to LAX.

Incentive Plans at Busier Facilities

The FAA can offer both incentive and retention bonuses in an effort to draw and retain qualified personnel at larger facilities.

In 2008, FAA successfully used bonuses to retain 21 employees and attract 13 experienced employees into the Southern California TRACON. That same year, FAA also used a similar program at LAX that attracted seven experienced controllers.

- Employees that accepted *retention bonuses* received $25,000, paid out over three years.
- The amount of the *incentive bonuses* fluctuated because it was based on the employee's current salary – 15 percent of their base pay plus locality. However, the payment could not exceed $24,000.

Unlike retention bonuses that were paid out only through installment plans, incentive bonuses were dispersed in two halves. Half of the money was paid through installments throughout the year, and at the end of the one-year agreement, a one-time payment was made for the balance. For example, if an employee was eligible to receive the full $24,000, he or she would receive $12,000 dispersed throughout the year, and then a one-time payout of $12,000. Controllers that accepted the incentive bonus also received a one-time, Permanent Change of Station payment of

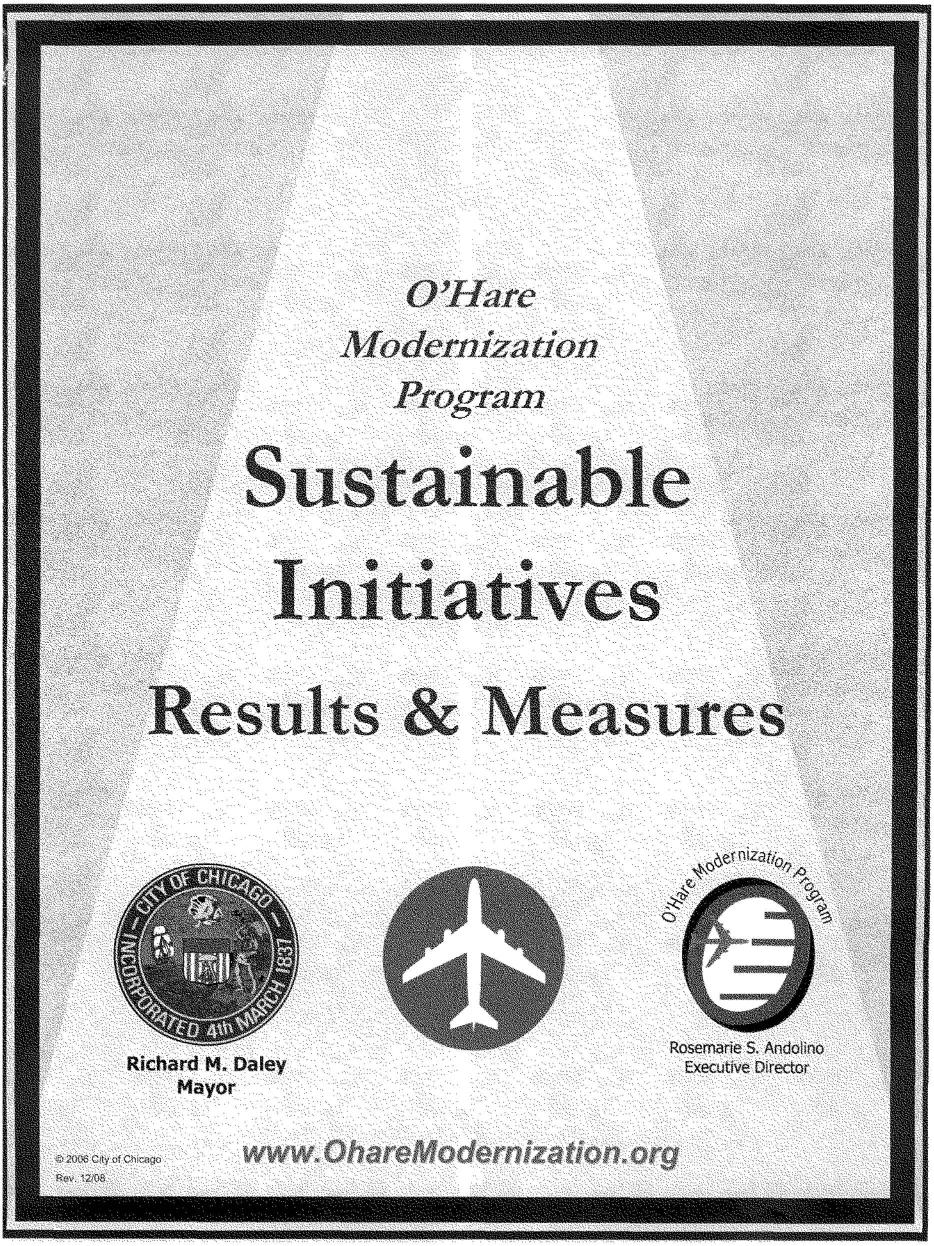
$27,000. This program was very successful and the FAA intends to use these same types of bonuses again.

To date, there have been no instances where an employee lost money in accepting either an incentive or a retention bonus. Acceptance is not compulsory, even if an employee meets the criteria, and is selected, they can refuse the terms of the offer. The 2006 contract did not discourage experienced employees from applying for these bonuses. In fact, under that contract, employees earning more than the pay band were allowed to maintain their pay. In many cases, employees received pay increases by transferring to higher-level facilities, which was a goal of the program.

ADDITIONAL MATERIALS FOR THE RECORD

SUSTAINABILITY IN PRACTICE

MARCH 10, 2010



O'Hare
Modernization
Program

Sustainable Initiatives

Results & Measures

Richard M. Daley
Mayor

Rosemarie S. Andolino
Executive Director

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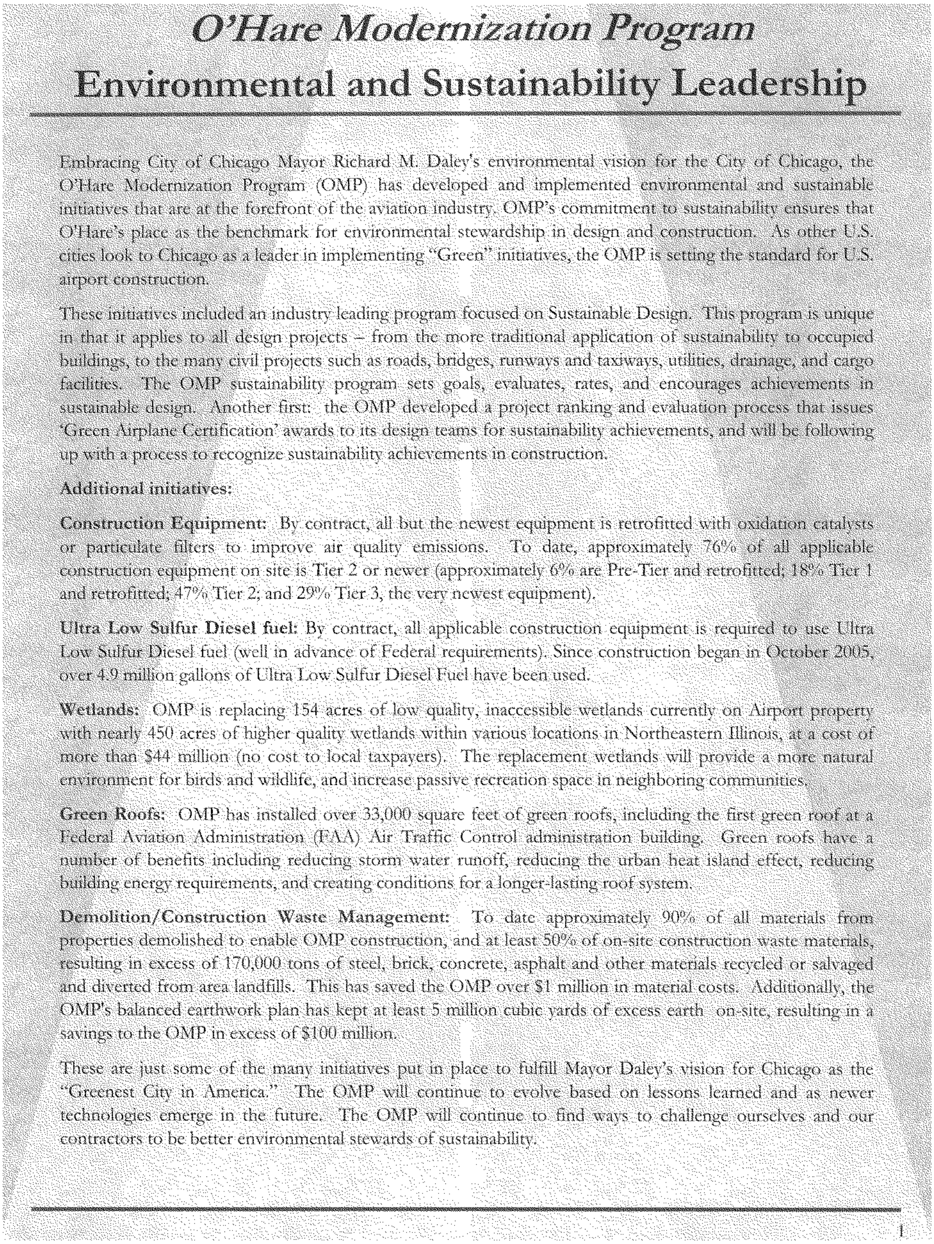
Rev. 12/08

www.OhareModernization.org



O'Hare Modernization Program

Environmental and Sustainability Leadership

Embracing City of Chicago Mayor Richard M. Daley's environmental vision for the City of Chicago, the O'Hare Modernization Program (OMP) has developed and implemented environmental and sustainable initiatives that are at the forefront of the aviation industry. OMP's commitment to sustainability ensures that O'Hare's place as the benchmark for environmental stewardship in design and construction. As other U.S. cities look to Chicago as a leader in implementing "Green" initiatives, the OMP is setting the standard for U.S. airport construction.

These initiatives included an industry leading program focused on Sustainable Design. This program is unique in that it applies to all design projects – from the more traditional application of sustainability to occupied buildings, to the many civil projects such as roads, bridges, runways and taxiways, utilities, drainage, and cargo facilities. The OMP sustainability program sets goals, evaluates, rates, and encourages achievements in sustainable design. Another first: the OMP developed a project ranking and evaluation process that issues 'Green Airplane Certification' awards to its design teams for sustainability achievements, and will be following up with a process to recognize sustainability achievements in construction.

Additional initiatives:

Construction Equipment: By contract, all but the newest equipment is retrofitted with oxidation catalysts or particulate filters to improve air quality emissions. To date, approximately 76% of all applicable construction equipment on site is Tier 2 or newer (approximately 6% are Pre-Tier and retrofitted; 18% Tier 1 and retrofitted; 47% Tier 2; and 29% Tier 3, the very newest equipment).

Ultra Low Sulfur Diesel fuel: By contract, all applicable construction equipment is required to use Ultra Low Sulfur Diesel fuel (well in advance of Federal requirements). Since construction began in October 2005, over 4.9 million gallons of Ultra Low Sulfur Diesel Fuel have been used.

Wetlands: OMP is replacing 154 acres of low quality, inaccessible wetlands currently on Airport property with nearly 450 acres of higher quality wetlands within various locations in Northeastern Illinois, at a cost of more than $44 million (no cost to local taxpayers). The replacement wetlands will provide a more natural environment for birds and wildlife, and increase passive recreation space in neighboring communities.

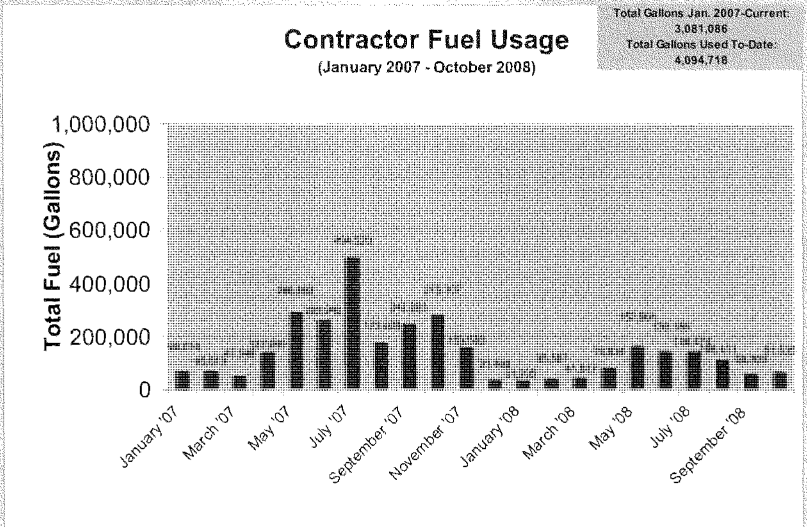
Green Roofs: OMP has installed over 33,000 square feet of green roofs, including the first green roof at a Federal Aviation Administration (FAA) Air Traffic Control administration building. Green roofs have a number of benefits including reducing storm water runoff, reducing the urban heat island effect, reducing building energy requirements, and creating conditions for a longer-lasting roof system.

Demolition/Construction Waste Management: To date approximately 90% of all materials from properties demolished to enable OMP construction, and at least 50% of on-site construction waste materials, resulting in excess of 170,000 tons of steel, brick, concrete, asphalt and other materials recycled or salvaged and diverted from area landfills. This has saved the OMP over $1 million in material costs. Additionally, the OMP's balanced earthwork plan has kept at least 5 million cubic yards of excess earth on-site, resulting in a savings to the OMP in excess of $100 million.

These are just some of the many initiatives put in place to fulfill Mayor Daley's vision for Chicago as the "Greenest City in America." The OMP will continue to evolve based on lessons learned and as newer technologies emerge in the future. The OMP will continue to find ways to challenge ourselves and our contractors to be better environmental stewards of sustainability.

O'Hare Modernization Program

Environmental and Sustainability Leadership

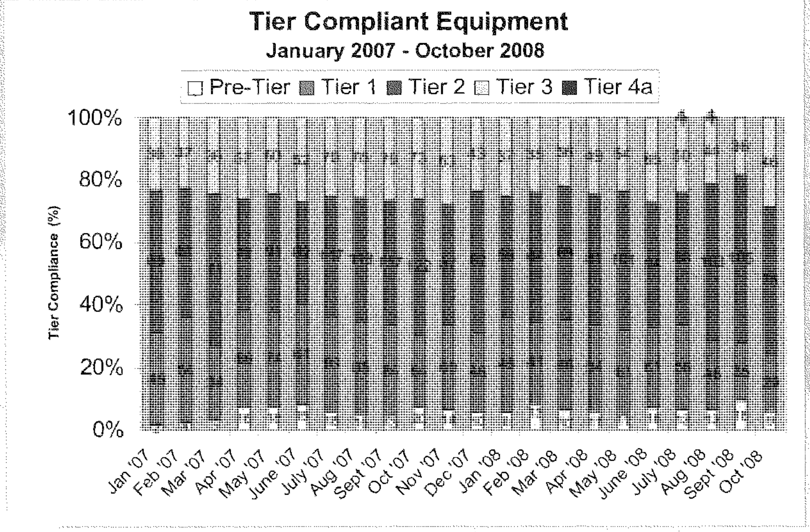


Contractor Fuel Usage

(January 2007 - October 2008)

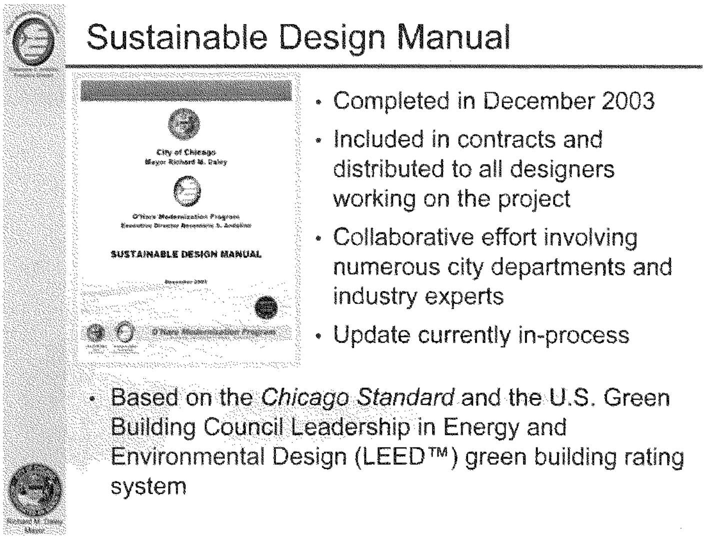
Total Gallons Jan. 2007-Current: 3,081,086

Total Gallons Used To-Date: 4,094,718



Tier Compliant Equipment

January 2007 - October 2008



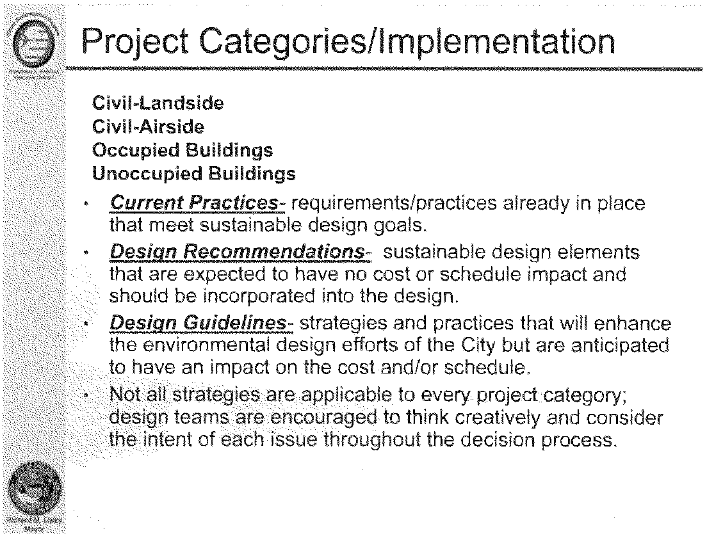
Sustainable Design Manual

City of Chicago
Mayor Richard M. Daley

O'Hare Modernization Program

SUSTAINABLE DESIGN MANUAL

- Completed in December 2003
- Included in contracts and distributed to all designers working on the project
- Collaborative effort involving numerous city departments and industry experts
- Update currently in-process
- Based on the *Chicago Standard* and the U.S. Green Building Council Leadership in Energy and Environmental Design (LEED™) green building rating system



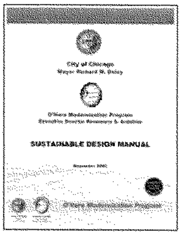
Project Categories/Implementation

Civil-Landside
Civil-Airside
Occupied Buildings
Unoccupied Buildings

- ***Current Practices***- requirements/practices already in place that meet sustainable design goals.
- ***Design Recommendations***- sustainable design elements that are expected to have no cost or schedule impact and should be incorporated into the design.
- ***Design Guidelines***- strategies and practices that will enhance the environmental design efforts of the City but are anticipated to have an impact on the cost and/or schedule.
- Not all strategies are applicable to every project category; design teams are encouraged to think creatively and consider the intent of each issue throughout the decision process.

Sustainable Awards

- Recognized with the Green Certification Award for incorporating sustainable measures - above and beyond those required.
- To date – 28 projects have been awarded for Sustainable Design Practices and 4 projects have been awarded for Sustainable Construction Practices.
- Sustainable Construction Practices are **tracked** to ensure compliance with the SDM, contracts, and specifications in the areas of Diesel Vehicle Emissions Control, Construction Waste Management, Regional Materials and Recycled Materials.



SUSTAINABLE DESIGN MANUAL

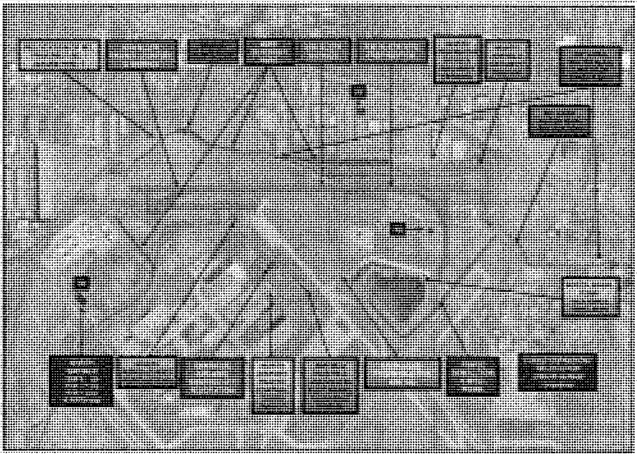
OMP Sustainable Design Manual

CERTIFICATION POINT SYSTEM

		Civil - Airside	Civil - Landside	Buildings - Occupied	Buildings - Unoccupied
	Total Points Possible	**41**	**44**	**70**	**57**
Green Certification: **	✈✈✈✈✈	31	33	53	43
	✈✈✈✈	23	25	40	32
	✈✈✈	20	21	34	27
	✈✈	16	17	27	22
	✈	4	4	5	5

**Points required to achieve rating.

North Airfield Project Layout



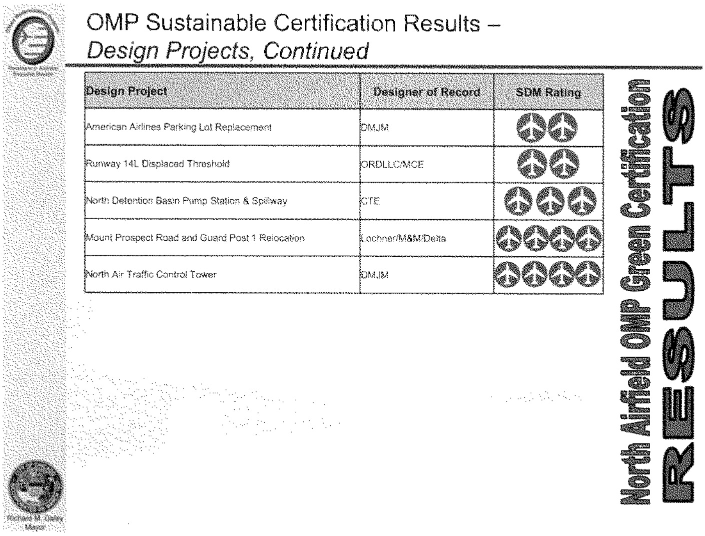
OMP Sustainable Certification Results – *Design Projects*

Design Project	Designer of Record	SDM Rating
ASR-9, RTR-P and RTR-Q Facilities and FOTS Loop	ORDLLC	✈
Bird Deterrent Wire	BPC Airport Partners	✈
JAWA Relocation	Burns & McDonnell Engineering	✈
Mt. Prospect Bridge Demolition	BPC Airport Partners	✈
North Airfield ARFF Facility	Muller & Muller	✈
North Airfield Facilities Relocation K-9 Kennels & Building 706	EDI	✈
North Airfield Fence Removal and Misc. Work	BPC Airport Partners	✈
North Airfield Lighting Control Vault Expansion	STV	✈
North Airfield Security Fencing	BPC Airport Partners	✈
North LLWAS Expansion/Relocation	Knight Engineering & Architecture	✈
North Perimeter Road and Security Fencing	BPC Airport Partners	✈
Runway 9L/27R NAVAIDS	ORDLLC	✈
Runway 9L/27R Paving & Electrical	ORDLLC	✈
Runway 9L-27R Site Preparation	ORDLLC (Lead)/CTE/MACTEC	✈
Willow-Higgins Creek Relocation	ORDLLC (Lead)/CTE/MACTEC	✈

North Airfield OMP Green Certification

RESULTS

Richard M. Daley
Mayor

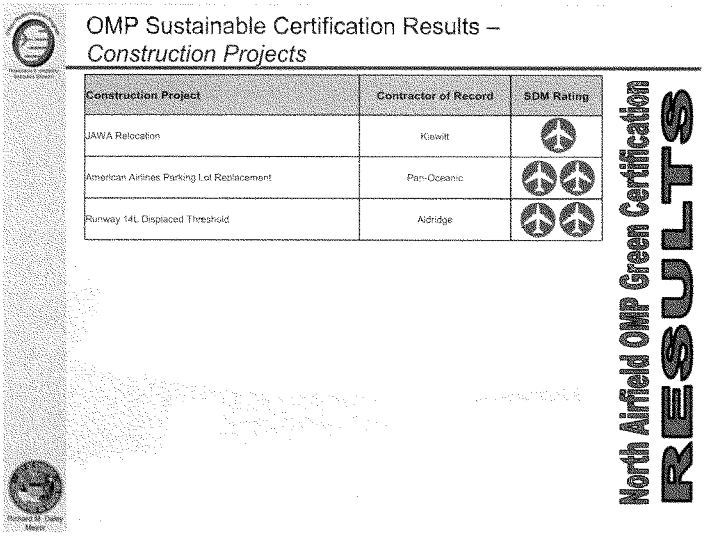


OMP Sustainable Certification Results – *Design Projects, Continued*

Design Project	Designer of Record	SDM Rating
American Airlines Parking Lot Replacement	DMJM	✈✈
Runway 14L Displaced Threshold	ORDLLC/MCE	✈✈
North Detention Basin Pump Station & Spillway	CTE	✈✈✈
Mount Prospect Road and Guard Post 1 Relocation	Lochner/M&M/Delta	✈✈✈✈
North Air Traffic Control Tower	DMJM	✈✈✈✈

North Airfield OMP Green Certification
RESULTS

Richard M. Daley
Mayor

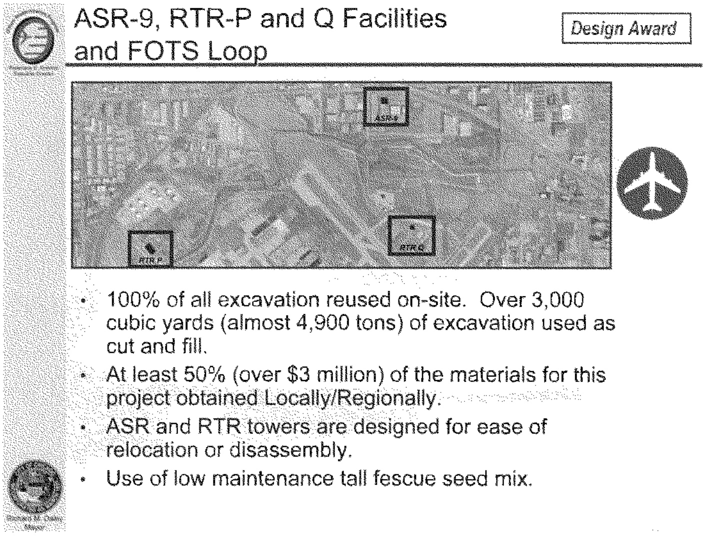


OMP Sustainable Certification Results – *Construction Projects*

Construction Project	Contractor of Record	SDM Rating
JAWA Relocation	Kiewitt	✈
American Airlines Parking Lot Replacement	Pan-Oceanic	✈✈
Runway 14L Displaced Threshold	Aldridge	✈✈

North Airfield OMP Green Certification
RESULTS

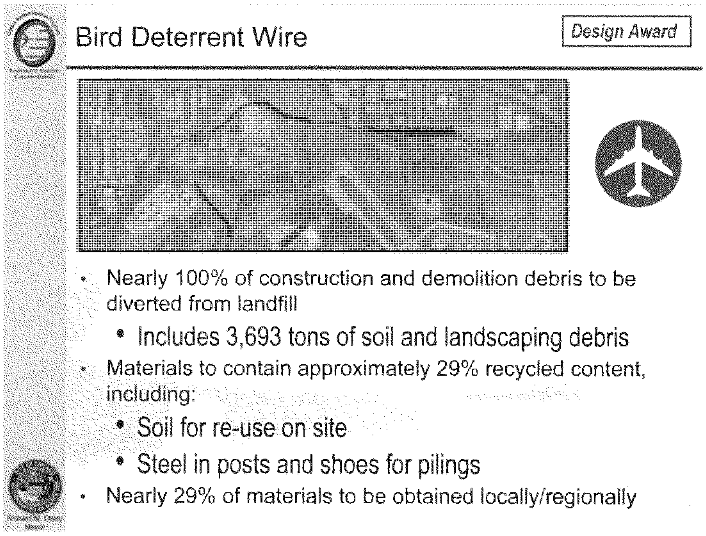
Richard M. Daley
Mayor


ASR-9
RTR P
RTR Q

ASR-9, RTR-P and Q Facilities and FOTS Loop

Design Award

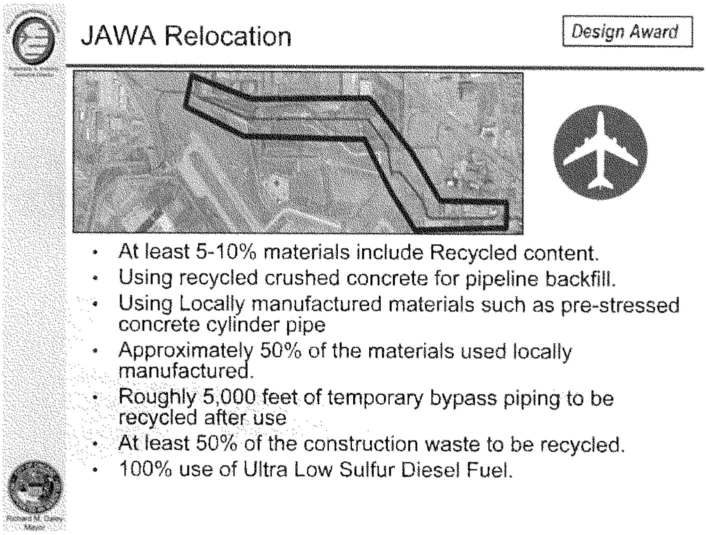
- 100% of all excavation reused on-site. Over 3,000 cubic yards (almost 4,900 tons) of excavation used as cut and fill.
- At least 50% (over $3 million) of the materials for this project obtained Locally/Regionally.
- ASR and RTR towers are designed for ease of relocation or disassembly.
- Use of low maintenance tall fescue seed mix.



Bird Deterrent Wire

Design Award

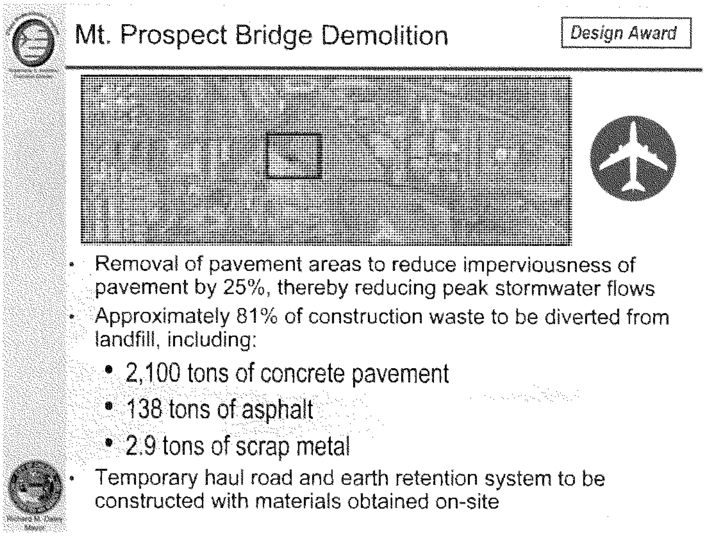
- Nearly 100% of construction and demolition debris to be diverted from landfill
  - Includes 3,693 tons of soil and landscaping debris
- Materials to contain approximately 29% recycled content, including:
  - Soil for re-use on site
  - Steel in posts and shoes for pilings
- Nearly 29% of materials to be obtained locally/regionally



JAWA Relocation

Design Award

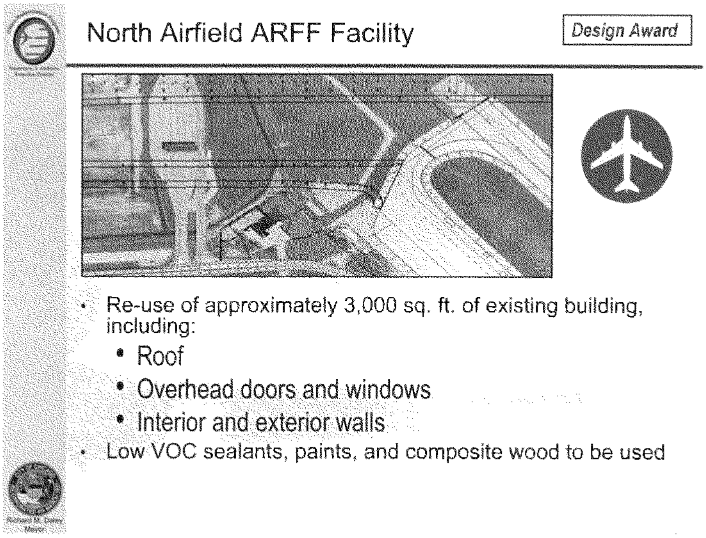
- At least 5-10% materials include Recycled content.
- Using recycled crushed concrete for pipeline backfill.
- Using Locally manufactured materials such as pre-stressed concrete cylinder pipe
- Approximately 50% of the materials used locally manufactured.
- Roughly 5,000 feet of temporary bypass piping to be recycled after use
- At least 50% of the construction waste to be recycled.
- 100% use of Ultra Low Sulfur Diesel Fuel.



Mt. Prospect Bridge Demolition

Design Award

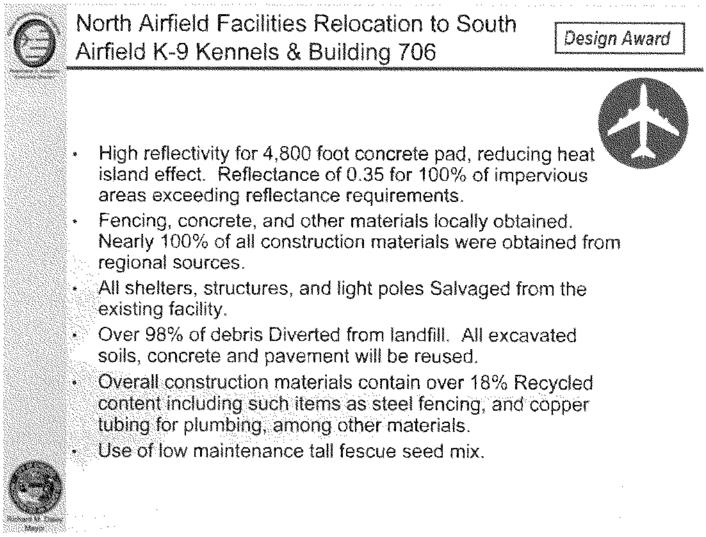
- Removal of pavement areas to reduce imperviousness of pavement by 25%, thereby reducing peak stormwater flows
- Approximately 81% of construction waste to be diverted from landfill, including:
  - 2,100 tons of concrete pavement
  - 138 tons of asphalt
  - 2.9 tons of scrap metal
- Temporary haul road and earth retention system to be constructed with materials obtained on-site



North Airfield ARFF Facility

Design Award

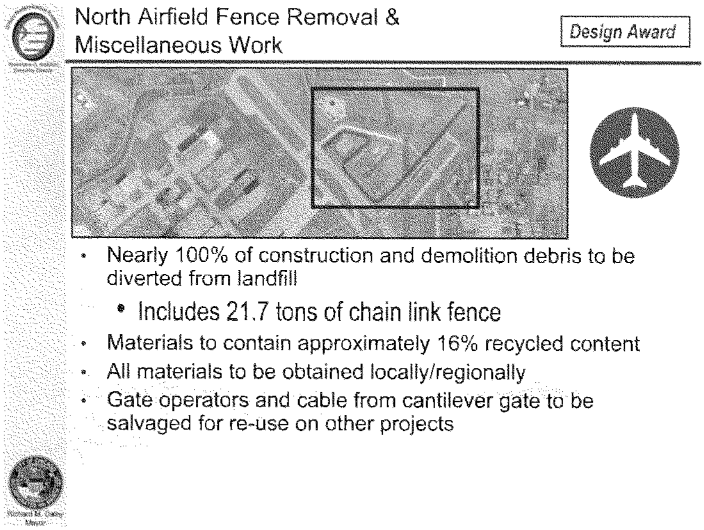
- Re-use of approximately 3,000 sq. ft. of existing building, including:
  - Roof
  - Overhead doors and windows
  - Interior and exterior walls
- Low VOC sealants, paints, and composite wood to be used



North Airfield Facilities Relocation to South Airfield K-9 Kennels & Building 706

Design Award

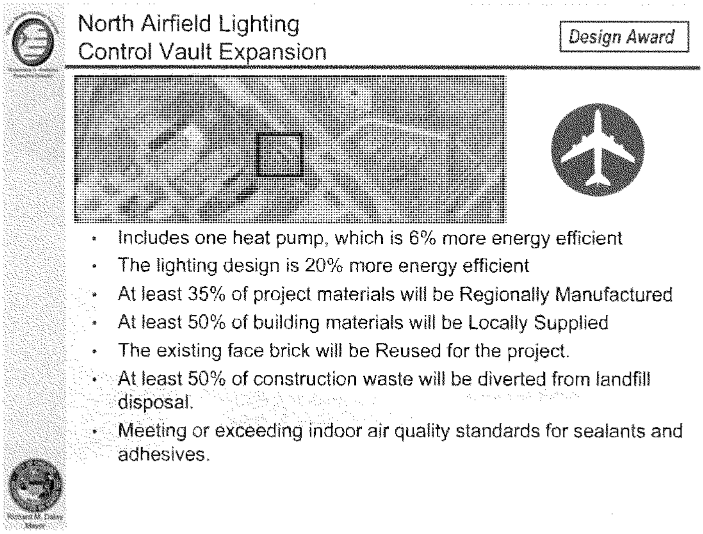
- High reflectivity for 4,800 foot concrete pad, reducing heat island effect. Reflectance of 0.35 for 100% of impervious areas exceeding reflectance requirements.
- Fencing, concrete, and other materials locally obtained. Nearly 100% of all construction materials were obtained from regional sources.
- All shelters, structures, and light poles Salvaged from the existing facility.
- Over 98% of debris Diverted from landfill. All excavated soils, concrete and pavement will be reused.
- Overall construction materials contain over 18% Recycled content including such items as steel fencing, and copper tubing for plumbing, among other materials.
- Use of low maintenance tall fescue seed mix.



North Airfield Fence Removal & Miscellaneous Work

Design Award

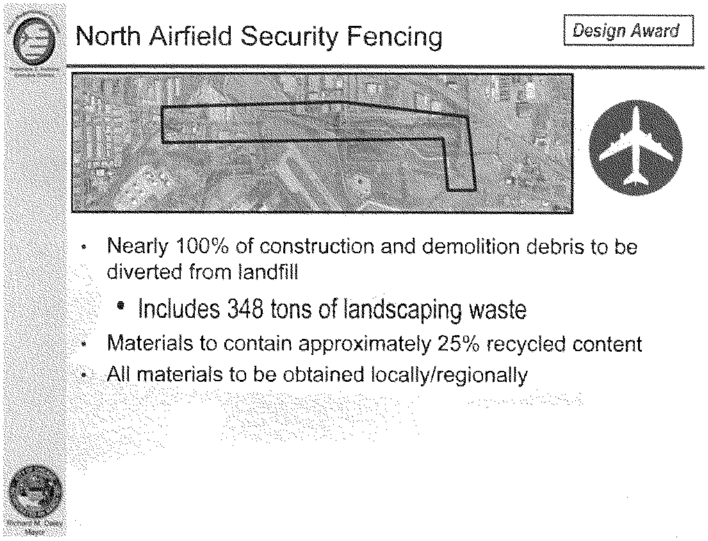
- Nearly 100% of construction and demolition debris to be diverted from landfill
  - Includes 21.7 tons of chain link fence
- Materials to contain approximately 16% recycled content
- All materials to be obtained locally/regionally
- Gate operators and cable from cantilever gate to be salvaged for re-use on other projects



North Airfield Lighting Control Vault Expansion

Design Award

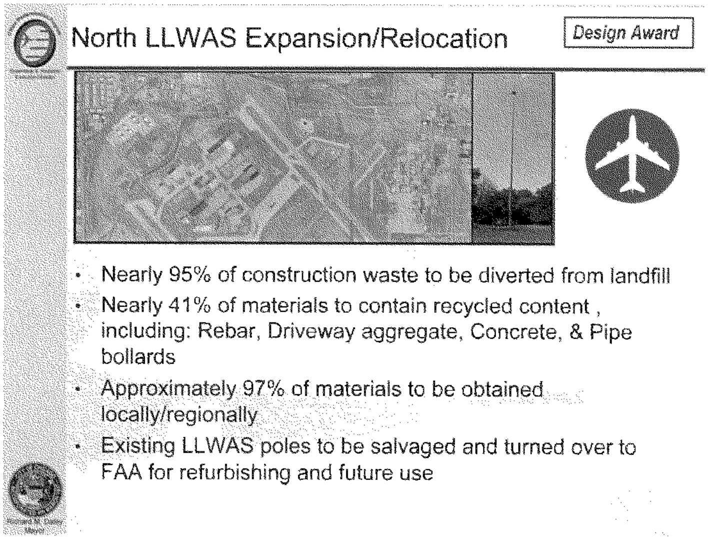
- Includes one heat pump, which is 6% more energy efficient
- The lighting design is 20% more energy efficient
- At least 35% of project materials will be Regionally Manufactured
- At least 50% of building materials will be Locally Supplied
- The existing face brick will be Reused for the project.
- At least 50% of construction waste will be diverted from landfill disposal.
- Meeting or exceeding indoor air quality standards for sealants and adhesives.



North Airfield Security Fencing

Design Award

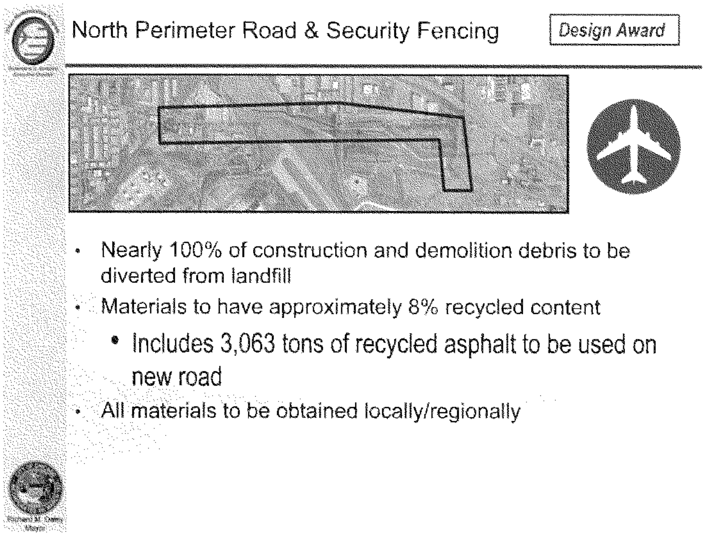
- Nearly 100% of construction and demolition debris to be diverted from landfill
  - Includes 348 tons of landscaping waste
- Materials to contain approximately 25% recycled content
- All materials to be obtained locally/regionally



North LLWAS Expansion/Relocation

Design Award

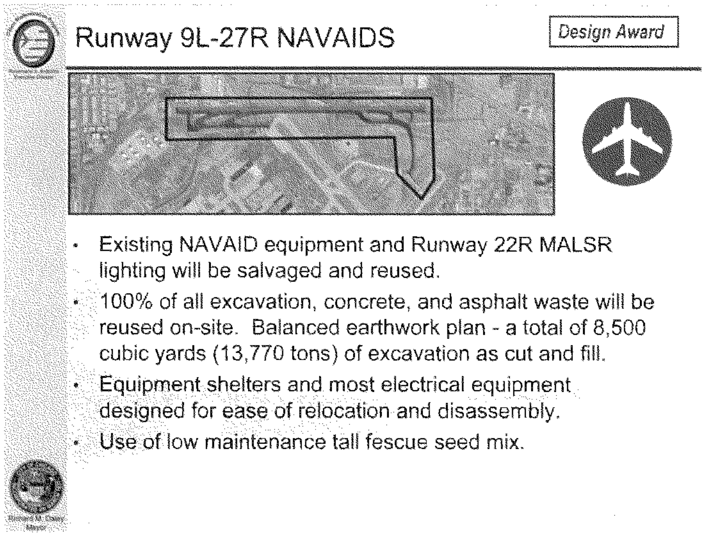
- Nearly 95% of construction waste to be diverted from landfill
- Nearly 41% of materials to contain recycled content , including: Rebar, Driveway aggregate, Concrete, & Pipe bollards
- Approximately 97% of materials to be obtained locally/regionally
- Existing LLWAS poles to be salvaged and turned over to FAA for refurbishing and future use



North Perimeter Road & Security Fencing

Design Award

- Nearly 100% of construction and demolition debris to be diverted from landfill
- Materials to have approximately 8% recycled content
  - Includes 3,063 tons of recycled asphalt to be used on new road
- All materials to be obtained locally/regionally



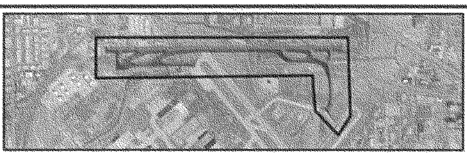
Runway 9L-27R NAVAIDS

Design Award

- Existing NAVAID equipment and Runway 22R MALSR lighting will be salvaged and reused.
- 100% of all excavation, concrete, and asphalt waste will be reused on-site. Balanced earthwork plan - a total of 8,500 cubic yards (13,770 tons) of excavation as cut and fill.
- Equipment shelters and most electrical equipment designed for ease of relocation and disassembly.
- Use of low maintenance tall fescue seed mix.

Runway 9L-27R Paving & Electrical

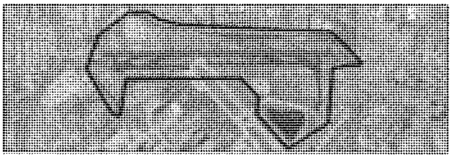
Design Award



- Over 51% of materials used for this project will be acquired within 500 miles.
- Lighting and NAVAIDS Salvaged for future use: signage and lighting equipment such as base cans, threshold lights ALSF-2 light bars, edge light fixtures and transformers.
- 100% of all excavated soils reused on-site, nearly 65,000 cubic yards (over 105,000 tons) of excavation used as cut and fill.
- Use of low maintenance tall fescue seed mix.

Runway 9L-27R Site Preparation

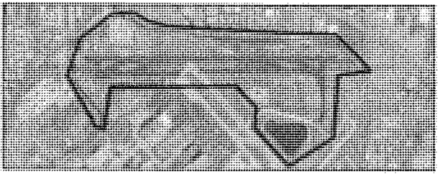
Design Award



- At least 20% of materials will be Regionally Manufactured and 50% will be Regionally Extracted.
- At least 5-10% Recycled Content materials in a number of materials.
- Balanced earthwork minimizes off-site hauling of excavated materials.
- Demolished concrete is being recycled - on-airport concrete recycling.
- 100% Tier compliant with nearly 23% (15 out of 66 vehicles) the newest Tier 3 compliant vehicles.

Willow-Higgins Creek Relocation

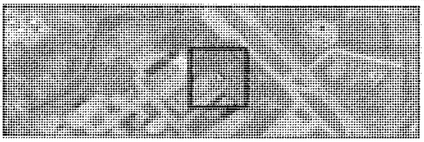
Design Award



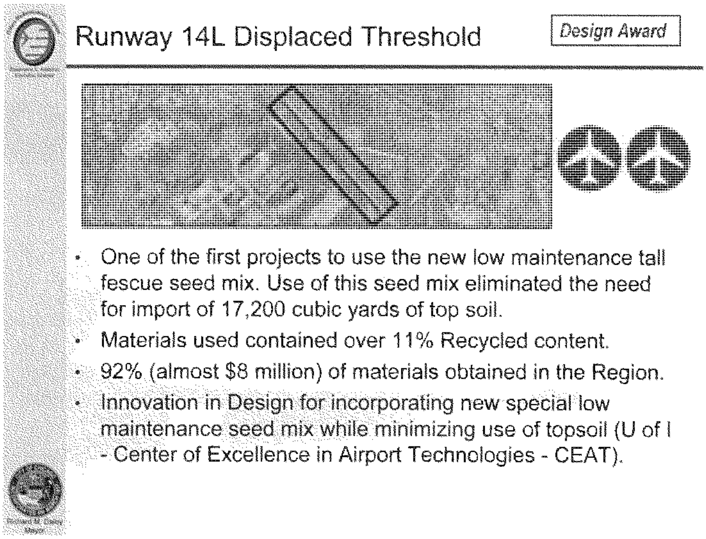
- 35% Recycled content materials
- At least 70% of the materials will be obtained locally/regionally.
- Excess vegetation and trees mulched for use in other OMP projects.
- Demolished concrete will be recycled - on-airport concrete recycling facility.
- An estimated 90% of the construction waste will be diverted away from landfills.
- An innovative traveling form system (EFCO) was used – eliminates up to 30,000 sq. ft. of traditional wooden forms

American Airlines Parking Lot

Design Award



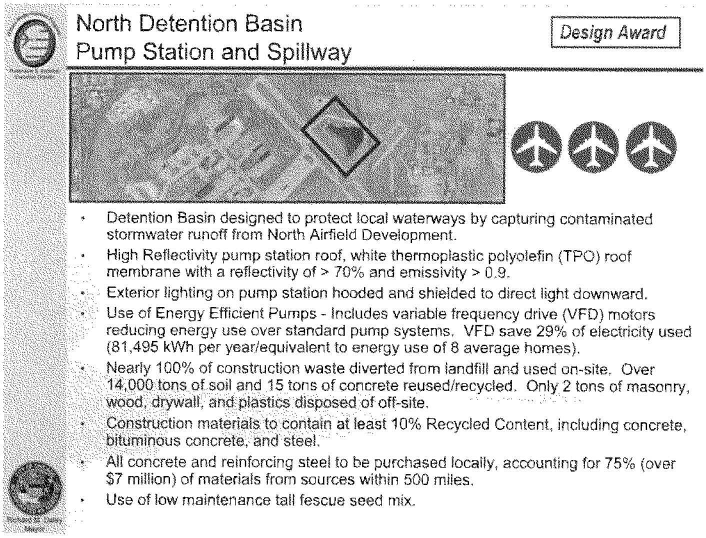
- Lighting includes efficient high pressure sodium fixtures avoiding off-site light trespass.
- Lighting is 67% more energy efficient
- Existing lot asphalt paving, base, and landscaping materials will be Salvaged and Recycled.
- At least 50% of materials will be obtained from Local/regional sources.
- Approximately 15% of materials contain Recycled Content.
- The light poles and fixtures from the original lot will be Reused
- At least 50% of construction waste to be diverted from landfills.



Runway 14L Displaced Threshold

Design Award

- One of the first projects to use the new low maintenance tall fescue seed mix. Use of this seed mix eliminated the need for import of 17,200 cubic yards of top soil.
- Materials used contained over 11% Recycled content.
- 92% (almost $8 million) of materials obtained in the Region.
- Innovation in Design for incorporating new special low maintenance seed mix while minimizing use of topsoil (U of I - Center of Excellence in Airport Technologies - CEAT).



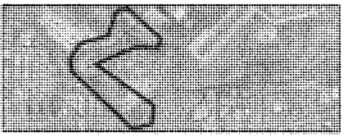
North Detention Basin Pump Station and Spillway

Design Award

- Detention Basin designed to protect local waterways by capturing contaminated stormwater runoff from North Airfield Development.
- High Reflectivity pump station roof, white thermoplastic polyolefin (TPO) roof membrane with a reflectivity of > 70% and emissivity > 0.9.
- Exterior lighting on pump station hooded and shielded to direct light downward.
- Use of Energy Efficient Pumps - Includes variable frequency drive (VFD) motors reducing energy use over standard pump systems. VFD save 29% of electricity used (81,495 kWh per year/equivalent to energy use of 8 average homes).
- Nearly 100% of construction waste diverted from landfill and used on-site. Over 14,000 tons of soil and 15 tons of concrete reused/recycled. Only 2 tons of masonry, wood, drywall, and plastics disposed of off-site.
- Construction materials to contain at least 10% Recycled Content, including concrete, bituminous concrete, and steel.
- All concrete and reinforcing steel to be purchased locally, accounting for 75% (over $7 million) of materials from sources within 500 miles.
- Use of low maintenance tall fescue seed mix.

Mount Prospect Road & Guard Post 1 Relocation

Design Award

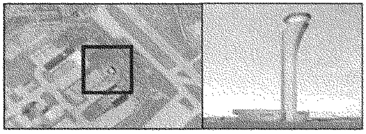


✈✈✈✈

- The Guard Post Canopy includes a Vegetated Green Roof.
- Capturing rainwater runoff will be used for watering landscaped areas.
- Reduces water consumption by 50% over conventional means.
- Use of at least 10% Local/Regional Materials and 50% of extracted materials within 500 miles the project.
- An existing overhead cantilever sign will be Salvaged and Reused.
- Construction demolition of the existing Mount Prospect Road and Guard Post will be Recycled and Reused (pavement, kiosks).
- 50% of the construction debris will be Diverted from landfill disposal.
- Low VOC emitting sealants and paints.

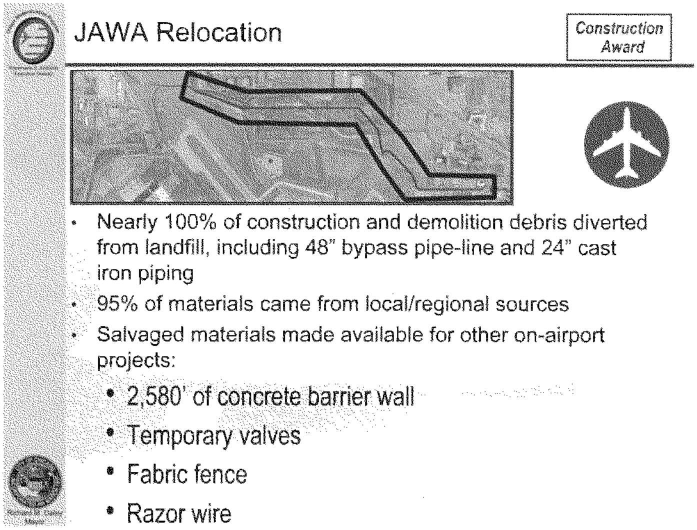
North Air Traffic Control Tower

Design Award



✈✈✈✈

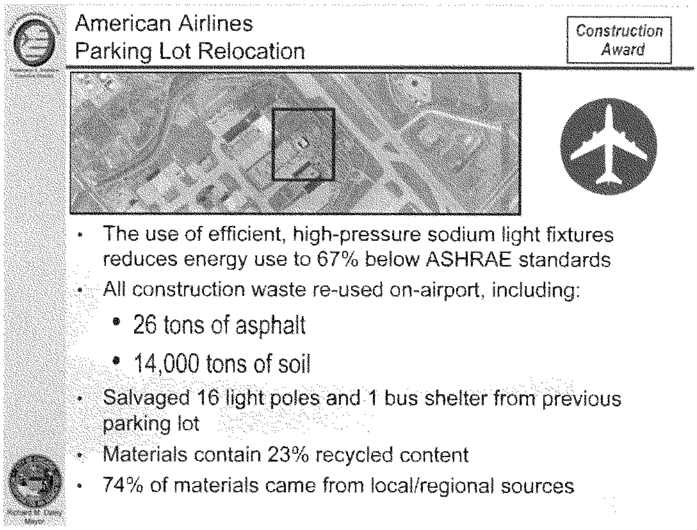
- Preferred Parking for Carpools and Vans will be provided.
- Native Grasses and Grass Swales to Filter and Reduce Runoff, control the rate of flow, and provide effective first flush treatment.
- A Vegetated "GREEN" Roof with natural grasses.
- The use of Dual Flush Toilets, High Efficiency proximity Flush Valves and Flow Restriction devices on faucets.
- At least 30% reduction from baseline water use.
- Minimum 20% Energy Efficiency.
- Building products will use at least 5% Recycled Content materials.
- At least 20% of building materials from Local Sources. At least 50% of all wood used will be FSC certified.
- At least 50% of Construction Waste to be Diverted from landfills.
- Low VOC emitting sealants, paints, and coatings.



JAWA Relocation

Construction Award

- Nearly 100% of construction and demolition debris diverted from landfill, including 48" bypass pipe-line and 24" cast iron piping
- 95% of materials came from local/regional sources
- Salvaged materials made available for other on-airport projects:
  - 2,580' of concrete barrier wall
  - Temporary valves
  - Fabric fence
  - Razor wire



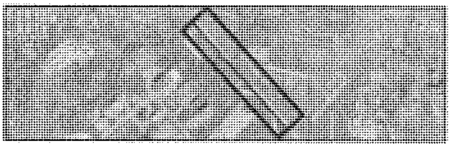
American Airlines Parking Lot Relocation

Construction Award

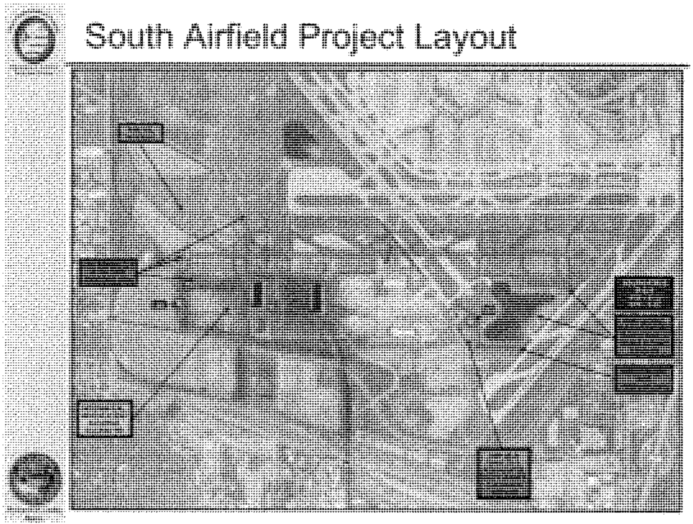
- The use of efficient, high-pressure sodium light fixtures reduces energy use to 67% below ASHRAE standards
- All construction waste re-used on-airport, including:
  - 26 tons of asphalt
  - 14,000 tons of soil
- Salvaged 16 light poles and 1 bus shelter from previous parking lot
- Materials contain 23% recycled content
- 74% of materials came from local/regional sources

Runway 14L Displaced Threshold

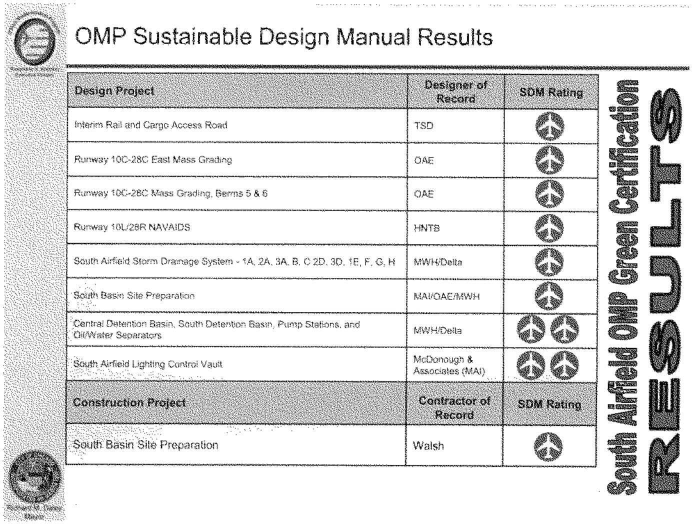
Construction Award



- NAVAIDS and Lighting Salvaged for future use: touchdown zone lights (TDZs), FAA glide slope equipment, runway visual range (RVR) antennae, precision approach path indicator (PAPI), foundations and light bases. Also an above ground storage tank (AST) was salvaged.
- Nearly 100% (154,307 tons) of C&D debris was diverted from landfill. Only 10 tons (wood, non-asbestos insulation, and roof materials) disposed of off-site.
- Construction employees bussed to site from construction staging areas.
- 100% use of ULSD fuel and 100% Tier compliant construction equipment.



South Airfield Project Layout

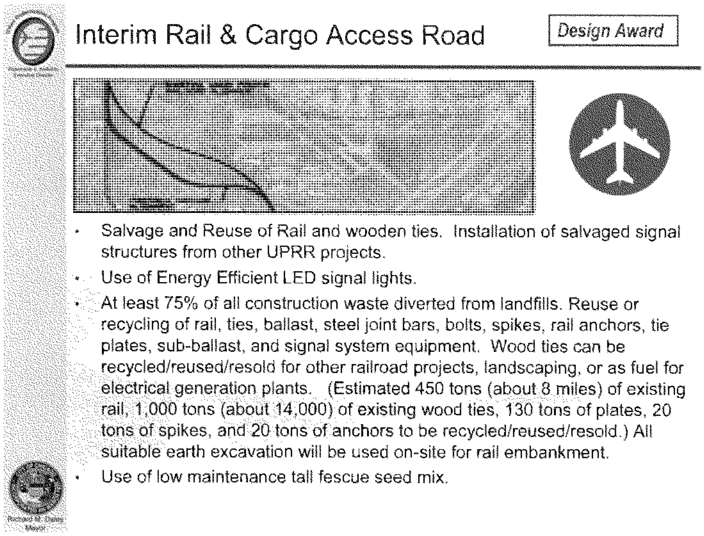


OMP Sustainable Design Manual Results

Design Project	Designer of Record	SDM Rating
Interim Rail and Cargo Access Road	TSD	✈
Runway 10C-28C East Mass Grading	OAE	✈
Runway 10C-28C Mass Grading, Berms 5 & 6	OAE	✈
Runway 10L/28R NAVAIDS	HNTB	✈
South Airfield Storm Drainage System - 1A, 2A, 3A, B, C 2D, 3D, 1E, F, G, H	MWH/Delta	✈
South Basin Site Preparation	MAI/OAE/MWH	✈
Central Detention Basin, South Detention Basin, Pump Stations, and Oil/Water Separators	MWH/Delta	✈ ✈
South Airfield Lighting Control Vault	McDonough & Associates (MAI)	✈ ✈
Construction Project	**Contractor of Record**	**SDM Rating**
South Basin Site Preparation	Walsh	✈

South Airfield OMP Green Certification

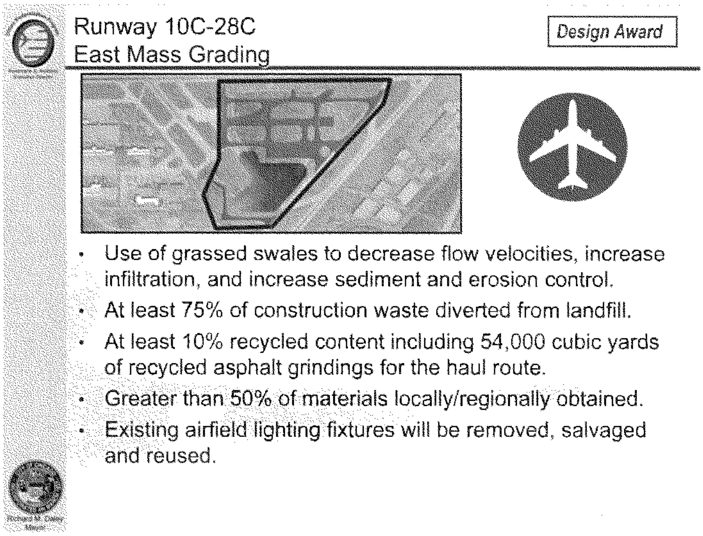
RESULTS



Interim Rail & Cargo Access Road

Design Award

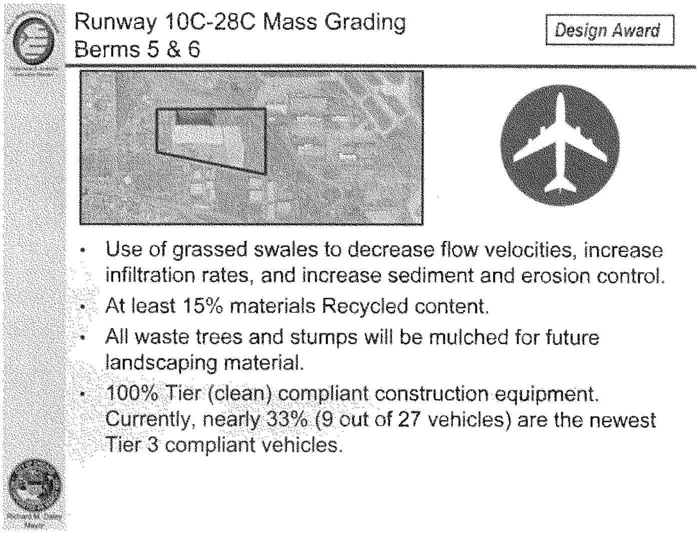
- Salvage and Reuse of Rail and wooden ties. Installation of salvaged signal structures from other UPRR projects.
- Use of Energy Efficient LED signal lights.
- At least 75% of all construction waste diverted from landfills. Reuse or recycling of rail, ties, ballast, steel joint bars, bolts, spikes, rail anchors, tie plates, sub-ballast, and signal system equipment. Wood ties can be recycled/reused/resold for other railroad projects, landscaping, or as fuel for electrical generation plants. (Estimated 450 tons (about 8 miles) of existing rail, 1,000 tons (about 14,000) of existing wood ties, 130 tons of plates, 20 tons of spikes, and 20 tons of anchors to be recycled/reused/resold.) All suitable earth excavation will be used on-site for rail embankment.
- Use of low maintenance tall fescue seed mix.



Runway 10C-28C East Mass Grading

Design Award

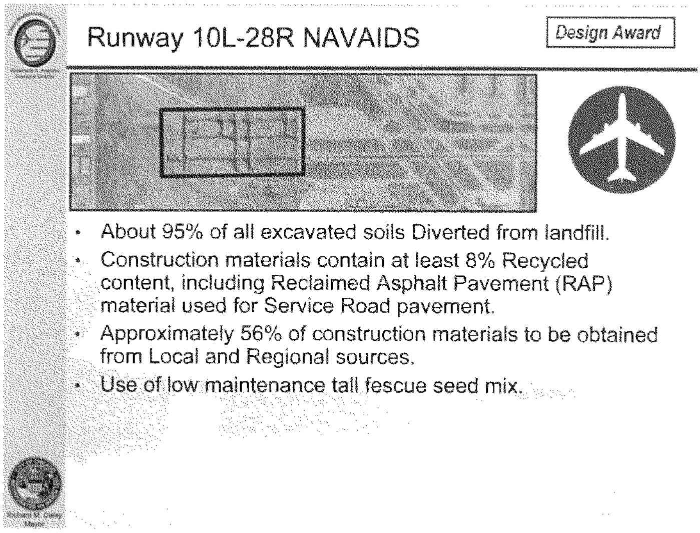
- Use of grassed swales to decrease flow velocities, increase infiltration, and increase sediment and erosion control.
- At least 75% of construction waste diverted from landfill.
- At least 10% recycled content including 54,000 cubic yards of recycled asphalt grindings for the haul route.
- Greater than 50% of materials locally/regionally obtained.
- Existing airfield lighting fixtures will be removed, salvaged and reused.



Runway 10C-28C Mass Grading Berms 5 & 6

Design Award

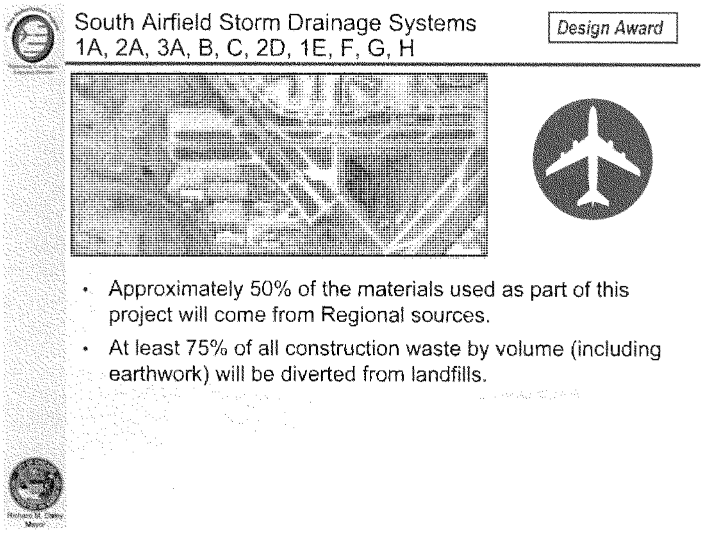
- Use of grassed swales to decrease flow velocities, increase infiltration rates, and increase sediment and erosion control.
- At least 15% materials Recycled content.
- All waste trees and stumps will be mulched for future landscaping material.
- 100% Tier (clean) compliant construction equipment. Currently, nearly 33% (9 out of 27 vehicles) are the newest Tier 3 compliant vehicles.



Runway 10L-28R NAVAIDS

Design Award

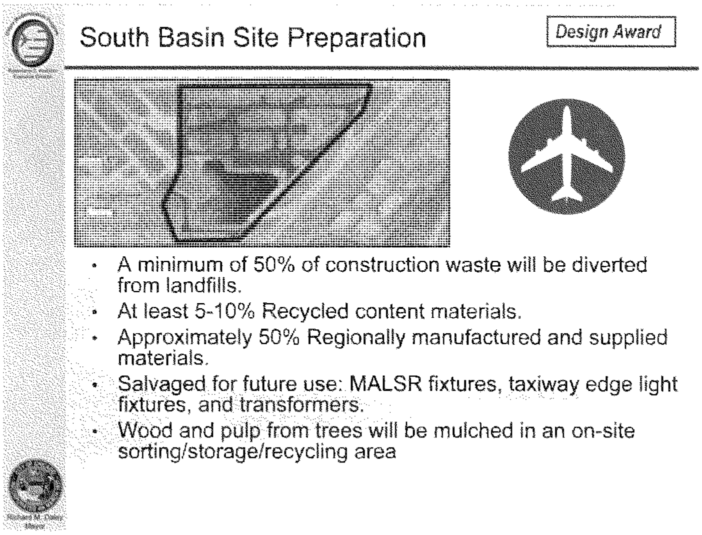
- About 95% of all excavated soils Diverted from landfill.
- Construction materials contain at least 8% Recycled content, including Reclaimed Asphalt Pavement (RAP) material used for Service Road pavement.
- Approximately 56% of construction materials to be obtained from Local and Regional sources.
- Use of low maintenance tall fescue seed mix.



South Airfield Storm Drainage Systems 1A, 2A, 3A, B, C, 2D, 1E, F, G, H

Design Award

- Approximately 50% of the materials used as part of this project will come from Regional sources.
- At least 75% of all construction waste by volume (including earthwork) will be diverted from landfills.



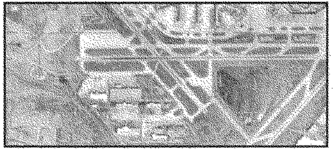
South Basin Site Preparation

Design Award

- A minimum of 50% of construction waste will be diverted from landfills.
- At least 5-10% Recycled content materials.
- Approximately 50% Regionally manufactured and supplied materials.
- Salvaged for future use: MALSR fixtures, taxiway edge light fixtures, and transformers.
- Wood and pulp from trees will be mulched in an on-site sorting/storage/recycling area

Central Detention Basin, South Detention Basin, Pump Stations, & Oil/Water Separators

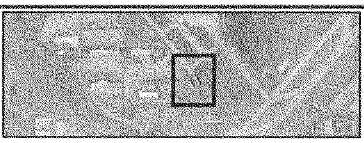
Design Award



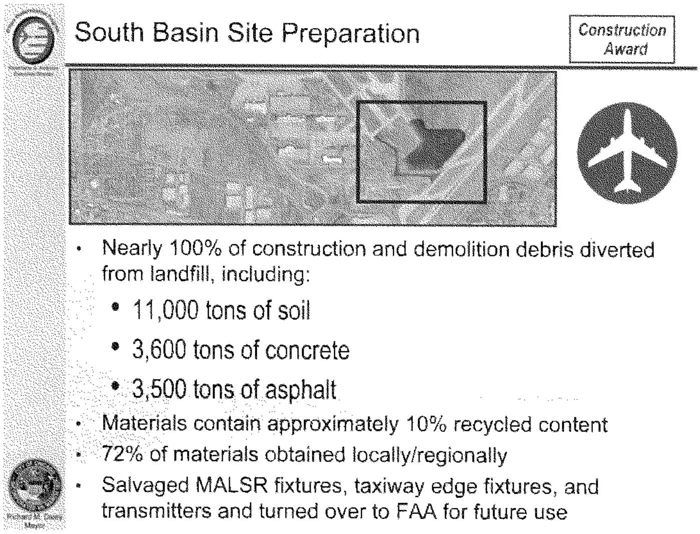
- Using oil-water separators to enhance water quality
- Use of Variable Frequency Drives (VFDs) on all pumps and high efficiency motors.
- At least 25% of the materials will be obtained from regional sources
- The existing pumps will be salvaged and reused
- Wood and pulp from trees will be mulched in an on-site sorting/storage/recycling area.
- Construction packaging will be recycled.
- Balanced earthwork plan.
- Innovation in Design: Use of a Slurry wall will be provided to minimize intermingling of the two aquifers.

South Airfield Lighting Control Vault

Design Award



- Includes a Vegetated "GREEN" Roof system which reduces stormwater runoff and reduces the 'heat island' effect.
- An estimated total Water Use Reduction of 23% is anticipated.
- 26% more energy efficient heat pumps and 45% more efficient lighting.
- Recycled Content of the building materials is at least 10%.
- Regionally Manufactured material is greater than 22%.
- The total amount of Locally Supplied materials is greater than 55%.
- At least 75% of construction waste will be diverted from landfill disposal.



South Basin Site Preparation

Construction Award

- Nearly 100% of construction and demolition debris diverted from landfill, including:
  - 11,000 tons of soil
  - 3,600 tons of concrete
  - 3,500 tons of asphalt
- Materials contain approximately 10% recycled content
- 72% of materials obtained locally/regionally
- Salvaged MALSR fixtures, taxiway edge fixtures, and transmitters and turned over to FAA for future use

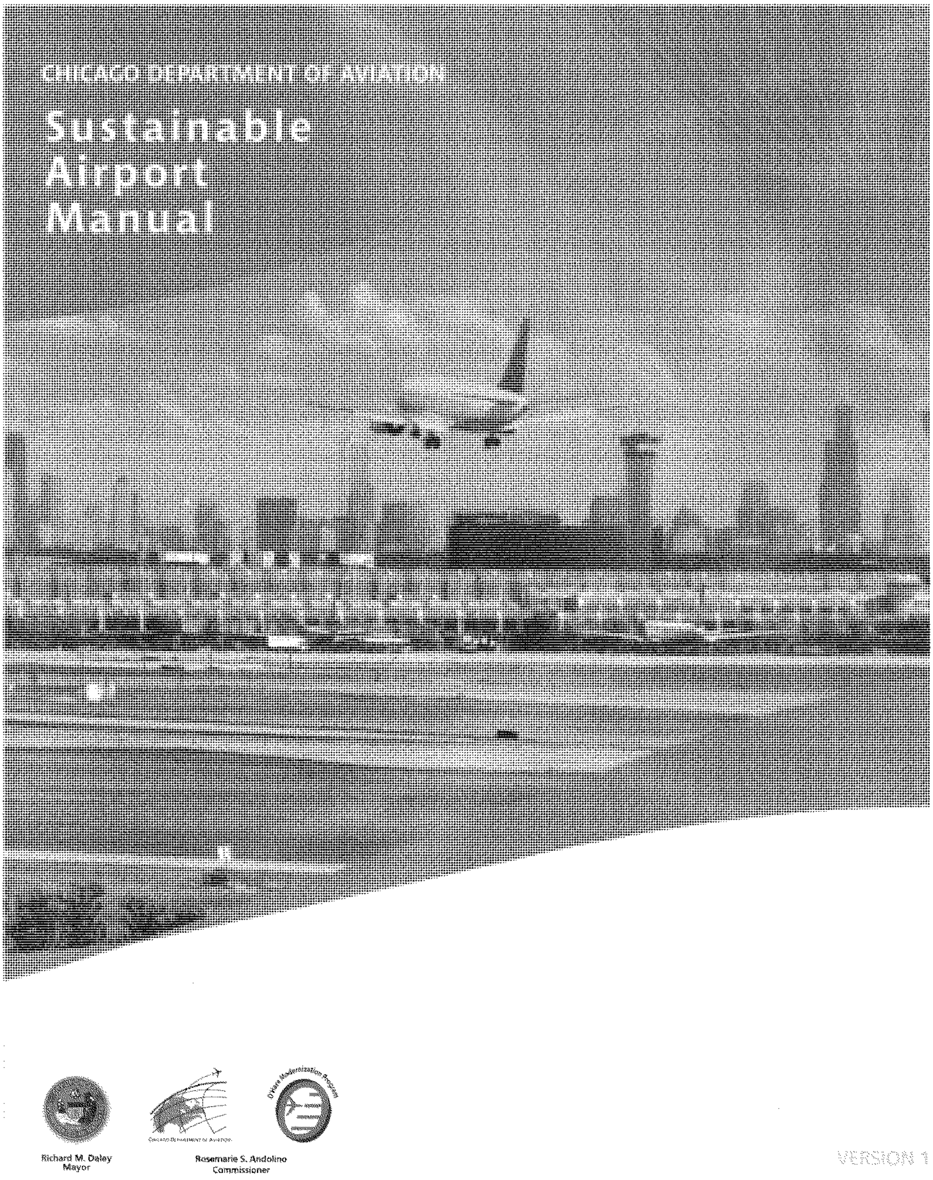
---

O'Hare Modernization Program

Rosemarie S. Andolino
Executive Director

Please visit www.OhareModernization.org to:

- **Sign up for the "OMP Web Alerts" to receive the latest news on the Program**
- **The sooner we complete construction, the sooner we can realize the benefits of a modernized O'Hare!**



CHICAGO DEPARTMENT OF AVIATION

Sustainable Airport Manual

O'Hare Modernization Program

Richard M. Daley
Mayor

Rosemarie S. Andolino
Commissioner

VERSION 1

CHICAGO DEPARTMENT OF AVIATION
Sustainable Airport Manual

Richard M. Daley
Mayor

Chicago Department of Aviation
Rosemarie S. Andolino
Commissioner

Message from Mayor Richard M. Daley

The City of Chicago has taken significant steps to protect our environment and is at the forefront of addressing these critical issues. We continue to lead by example by introducing new green initiatives, such as the Chicago Climate Action Plan, that are being replicated by cities around the world.

As part of the City's infrastructure, the Chicago Department of Aviation's commitment to green initiatives is an important aspect of our sustainable vision. Since its inception, the O'Hare Modernization Program has employed the most innovative and progressive sustainable measures in the aviation industry. Through its successful implementation of sustainable initiatives, the O'Hare Modernization Program has become the model for airports across the country looking to incorporate green practices on construction projects.

The Chicago Department of Aviation has created this Sustainable Airport Manual to be an international model for airport sustainability. I want to commend Aviation Commissioner Rosemarie S. Andolino, her staff, and the assembled group of aviation, environmental and industry leaders, for their hard work and dedication to the development of this important Manual.

Chicago's airports are a gateway for millions of travelers each year and serve a vital role in global commerce. As our airports continue to evolve and grow, so too will their efficiency and economic output. In addition to its key role as economic generator for the region and state, the Chicago Department of Aviation's commitment to environmental initiatives is an important part of our ongoing effort to make Chicago the greenest city in the nation.

Sincerely,

Richard M Daley

Richard M. Daley
Mayor
City of Chicago

Richard M. Daley
Mayor

Chicago Department of Aviation
Rosemarie S. Andolino
Commissioner

Message from Commissioner Rosemarie S. Andolino

The Chicago Department of Aviation continues to serve as a benchmark for environmental stewardship by embracing the best environmental, social, and fiscally responsible practices at our airports. Our goal is to complement and promote the City of Chicago's commitment to green initiatives and to enhance the quality of life for our citizens.

Under the leadership of Mayor Richard M. Daley, the O'Hare Modernization Program introduced the Sustainable Design Manual in 2003, to ensure that sustainable initiatives and measurements were implemented during the build out and modernization of Chicago O'Hare International Airport.

The Sustainable Design Manual positioned Chicago as the first in the nation to develop sustainable guidelines for design and construction at airports. It established the model for green airport development and has since received national and international recognition.

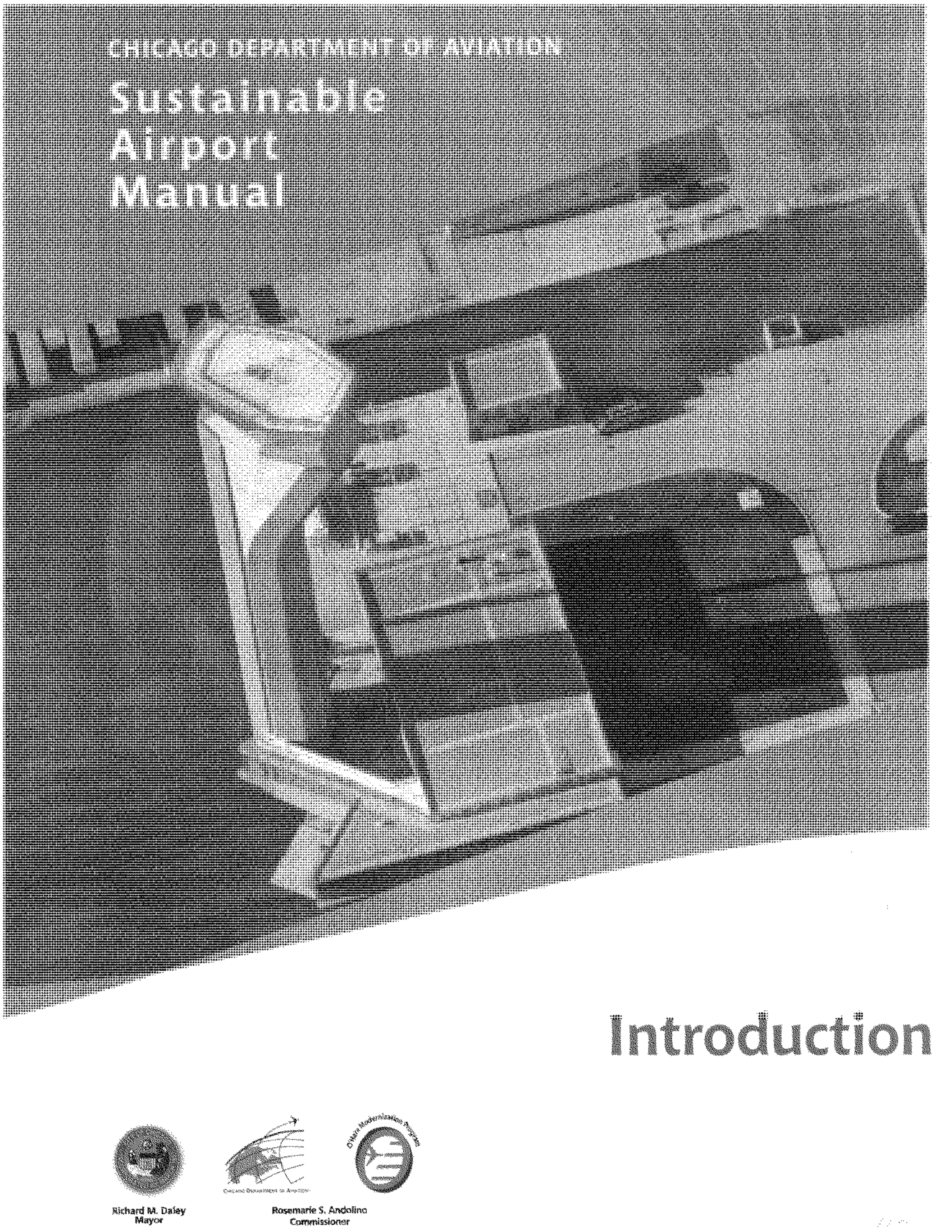
The Sustainable Design Manual was just the beginning. We continue to expand our focus to incorporate sustainable initiatives for airport planning, operations and maintenance, and concessions and tenants. To encompass all of these areas into one comprehensive document, we have created the *Sustainable Airport Manual (SAM)* which highlights each topic with a dedicated chapter.

This Manual is intended to be a "living document," one that will continue to grow and evolve, to include emerging new technologies, state-of-the-art design and thought-provoking principles as they develop. We are looking ahead to the future and working with industry experts, airport and airline professionals to collaborate on best practices and lessons learned from airports around the world.

This Manual would not have been possible without the collaborative input from so many dedicated individuals. I would like to sincerely thank each of you who contributed to the development of the Sustainable Airport Manual. It is because of your hard work, time and commitment that this document will become the model for sustainable implementation at airports across the globe.

Sincerely,

Rosemarie S. Andolino
Commissioner
Chicago Department of Aviation



CHICAGO DEPARTMENT OF AVIATION

Sustainable Airport Manual

Introduction

Richard M. Daley
Mayor

Rosemarie S. Andolino
Commissioner

…We have to start today and make those incremental benefits that we can continue to learn from, grow from, and continue to enhance in order for us to be better tomorrow…

Rosemarie S. Andolino
Commissioner
Chicago Department of Aviation

…This is a living document with many features to be updated on a continuous basis. Because technology is changing and new cutting-edge material is becoming available, there are opportunities to make enhancements on a continuous basis…

Sam Mehta
San Francisco International Airport

…We want to make sure that people who want to follow a concept back to its origins have the references to do so…we have participation nationally and globally from other airports and we want this document to have a worldwide benchmark presence…

Ken Westlake
U.S. Environmental Protection Agency

…We are seeing things changing and evolving very quickly …

Doug Widener
U.S. Green Building Council – Chicago Chapter

---

airportsgoinggreen.org

Comments? Case Studies?

Lessons-Learned? New Technologies?

SAMinfo@cityofchicago.org

VISION STATEMENT

The Chicago Department of Aviation is embracing the best possible environmental, social, and fiscally responsible practices to enhance the quality of life and complement the overall mission and goals of the City of Chicago. It is our vision that the Sustainable Airport Manual will become the global industry standard for sustainability planning, development, and everyday functions at airports around the world.

INTRODUCTION

When the original edition of this manual was unveiled as the Sustainable Design Manual (SDM) in December of 2003, Chicago was the first in the nation to develop sustainability guidance for airports. Numerous, wide-ranging OMP projects have since been reviewed and rated according to the standards established by the SDM, resulting in the evolution of a unique process and many industry firsts:

- Development of a rating system
- Development of a green airplane certification award system
- Recognition of designers and contractors for sustainable accomplishments

The 2003 SDM used the LEED-NC 2.1 rating system as a basis. Now, in 2009, the SDM has been updated based on LEED® 2009, as well as lessons-learned from implementation of the previous manual, and the availability of newer technologies. The 2003 SDM has been updated and is now the Design/Construction Chapter of the new Sustainable Airport Manual.

PURPOSE

The Sustainable Airport Manual (SAM) is an integral part of Chicago's ongoing efforts toward implementing more environmentally sustainable buildings and civil infrastructure, incorporating best practice guidance for planning, operations and maintenance of all City airport facilities and functions, and those of its tenants.

The purpose of the SAM is to integrate *airport-specific* sustainable planning and practices early in the design process, through construction, operations, maintenance and all airport functions with minimal impact to schedule or budget. To achieve greater success, the SAM should be considered in every step of a project.

While certain elements of the SAM are specific to the Chicago Department of Aviation, they can easily be customized and interpreted for any airport's unique environment. The vast majority of SAM's guidance is already applicable to any airport.

Sustainable practices can potentially reduce the environmental impact of the built environment while at the same time creating financial and operational benefits for a project, and social benefits for the community at large. Together, these aspects of sustainability are commonly referred to as the "triple bottom line."

Implementation of sustainable design elements can reduce operational costs and increase occupant productivity. The on-site recycling and reuse of construction waste and materials reduces transportation cost and the use of regionally-obtainable materials benefits the local economy and reduces life-cycle emissions of those materials. Regardless of the scale and scope of a project, it is anticipated that with the appropriate level of investment in these sustainable elements, all parties including owners, occupants, contractors, and the general public can benefit environmentally and economically. In many cases, there is little or no impact on the project budget or schedule in the implementation of these sustainable elements.

The SAM provides direction and is a guideline for incorporation of as many sustainable elements into a project as are feasible, beyond those elements that are required through an individual project's contract specifications and design standards.

LEED STANDARD

The Sustainable Airport Manual (SAM) has been drawn in large part from the Leadership in Energy and Environmental Design Green Building Rating System™ (LEED®) of the U.S. Green Building Council ("USGBC"). All rights reserved. Hereinafter, the SAM will refer to this source document as LEED or LEED 2009. The content of LEED® incorporated in the SAM is used with the permission of and under license with USGBC.

LEED® is the nationally accepted benchmark for the design, construction and operation of high performance green buildings.

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The City of Chicago Department of Aviation strongly encourages all applicable airport projects to seek individual LEED certification in addition to incorporating sustainable elements described in this Manual to the greatest extent possible and practicable.

The SAM is based on existing federal, state, and local regulatory requirements with additional sustainable and best practice environmental strategies and considerations. The guidance provided within does not supersede, but is intended to supplement such regulatory requirements. In Chicago, the existing federal, state, and local regulators and requirements include, but are not limited to:

- Federal Aviation Administration
- U.S. Environmental Protection Agency
- Illinois Environmental Protection Agency
- U.S. Department of Agriculture
- Illinois Department of Transportation
- Chicago Department of Aviation Best Management Practices, Standards for Design and Construction, Stormwater Pollution Prevention Plan, Underground Storage Tank Management Plan
- City of Chicago Codes and Ordinances
- City of Chicago 2003 Water Agenda
- O'Hare Modernization Program Balanced Earthwork Plan

Where a standard or specification is referenced in the Manual, it is assumed that it refers to the most current version unless otherwise noted.

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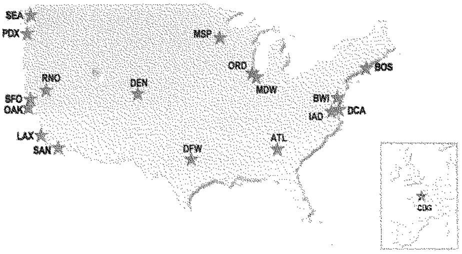

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CHAPTER – OPERATIONS AND MAINTENANCE *[In-Process]*

CHAPTER – CONCESSIONS AND TENANTS *[In-Process]*

ABBREVIATIONS

AOA	Air Operations Area
ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
BEP	Balanced Earthwork Plan
BMP	Best Management Practices
C&D	Construction & Demolition
CBC	Chicago Building Code
CDA	Chicago Department of Aviation
CDOT	Chicago Department of Transportation
CFC	Chlorofluorocarbon
CIR	Credit Interpretation Result
CM	Construction Manager
CxA	Commissioning Authority
DCAP	Chicago Department of Construction Administration and Permits
DOE	Department of Energy
EDRI	Engineering Document Recycling Initiative
EPA	Environmental Protection Agency
EPAct	Energy Policy Act
ETS	Environmental Tobacco Smoke
FAA	Federal Aviation Administration
FSC	Forest Stewardship Council
GWP	Global Warming Potential
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
HVAC&R	Heating, Ventilation, Air Conditioning & Refrigeration
IAQ	Indoor Air Quality
IESNA	Illumination Engineering Society of North America
LED	Light Emitting Diode
LEED®	Leadership in Energy and Environmental Design
LEED AP	LEED Accredited Professional
LEED-EB	LEED for Existing Buildings
LEED-NC	LEED for New Construction
LEV	Low-Emission Vehicle
MCE	Master Civil Engineer
MDW	Chicago Midway International Airport
ODP	Ozone Depletion Potential
OMP	O'Hare Modernization Program
ORD	Chicago O'Hare International Airport
PMO	Project Management Office
PV	Photovoltaic
RE	Resident Engineer
REC	Renewable Energy Certificates
SAM	Sustainable Airport Manual
SDM	Sustainable Design Manual
SRP	Sustainable Review Panel
ULSD	Ultra-Low Sulfur Diesel Fuel
USGBC	United States Green Building Council
VOC	Volatile Organic Compounds

SUSTAINABLE AIRPORT MANUAL REGISTRATION

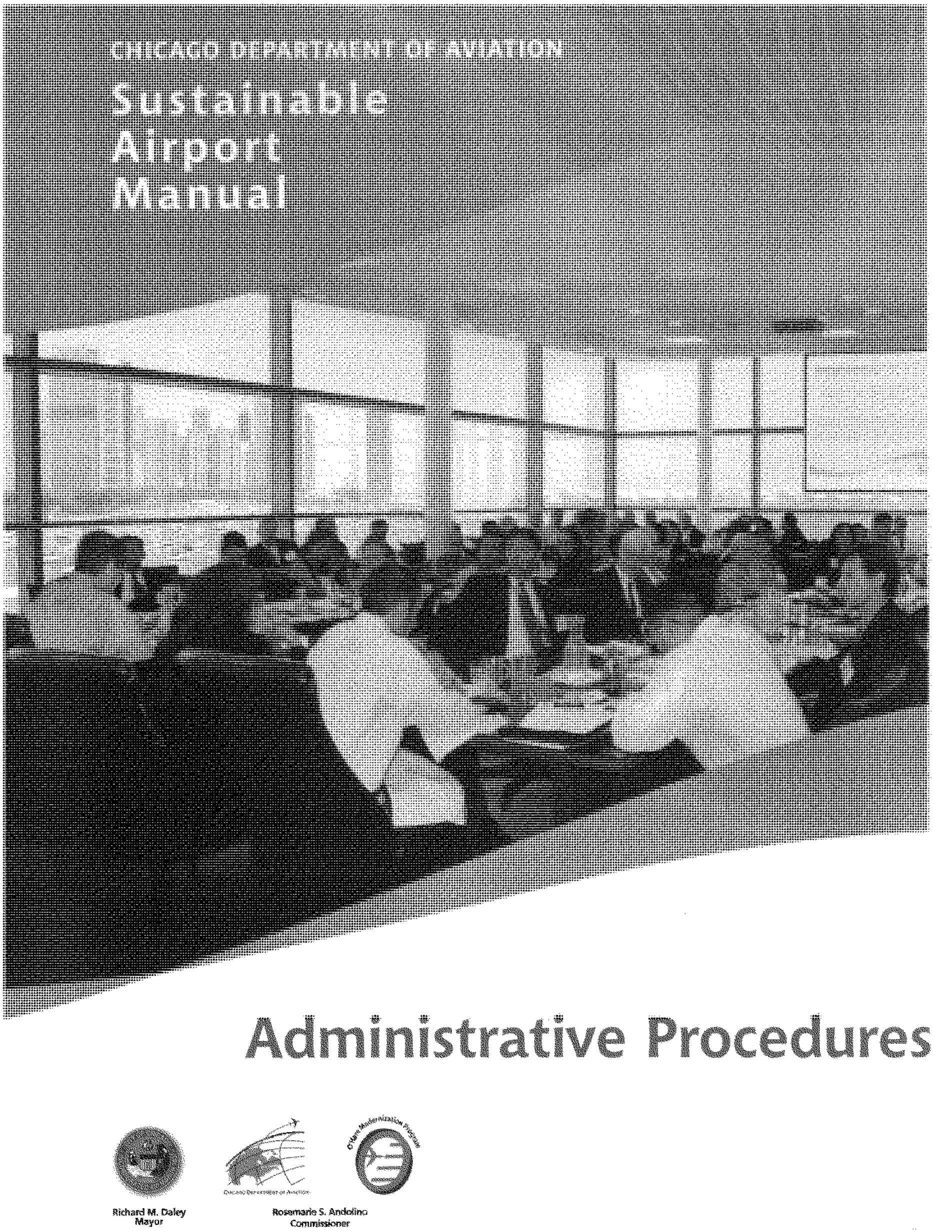
The Sustainable Airport Manual (SAM) is a "living document." It will continue to grow and evolve, and as such, the SAM will be updated frequently over time. Users of the SAM are encouraged to register to receive future updates.

To register, please visit www.airportsgoinggreen.org.

airportsgoinggreen.org

Comments? Case Studies?
Lessons-Learned? New Technologies?

SAMinfo@cityofchicago.org



CHICAGO DEPARTMENT OF AVIATION

Sustainable Airport Manual

Administrative Procedures

Richard M. Daley
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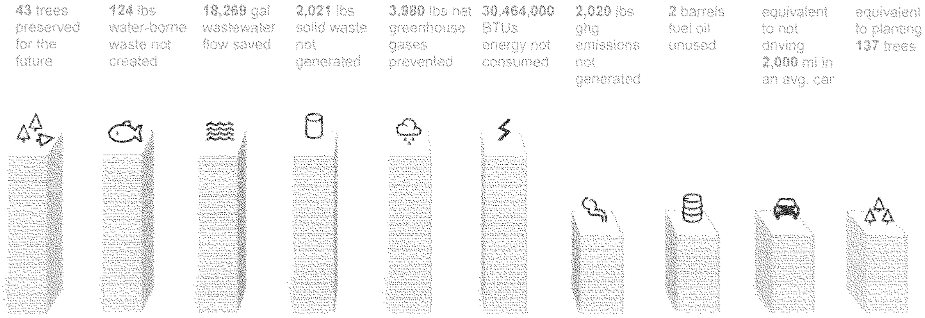

*for every 500 printed SAM copies

...We want to encourage companies and their employees to be active members and stewards of sustainability...

Amy Hanson
Federal Aviation Administration

...What you're trying to do is maximize your output with the least amount of input; reducing work, reducing materials, reducing your overall environmental footprint...

James Crites
Dallas-Ft. Worth International Airport

...If we truly want to be a community, we need to act as a community within our organization...

Rosemarie S. Andolino
Commissioner
Chicago Department of Aviation

airportsgoinggreen.org

ADMINISTRATIVE PROCEDURES
INTRODUCTION

These administrative procedures can be applied to any type of project. Additionally, they are intended to be used and followed in everyday operations and activities by all Chicago Department of Aviation (CDA) and Contractor staff, whenever applicable.

All projects conducted by or under management of the CDA will follow these procedures. For any and all sustainability-related questions and/or submittals, please use the following email address to submit forms electronically (preferred method):

SAMdocs@cityofchicago.org

airportsgoinggreen.org

Comments? Case Studies?
Lessons-Learned? New Technologies?
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1.0 ADMINISTRATIVE PROCEDURES

1.1 Prerequisite 1 – Green Meetings

Required

INTENT

Green meeting practices are intended to guide meeting hosts, planners, and attendees toward more eco-friendly meetings. A few extra efforts to incorporate environmental considerations into planning and conducting meetings will help to minimize the negative impact on the environment and educate all participants regarding sustainable meetings.

Green meeting practices are intended to:

- Conserve resources
- Reduce environmental impacts
- Save money
- Support Chicago's commitment to environmental stewardship

REQUIREMENTS

Whenever applicable, follow the green meeting practices outlined below, or your existing corporate sustainability policy, whichever is more stringent.

SUBMITTALS

Include narrative on SAM Checklist and if following your own corporate sustainability policy, please include with submittal for this section.

TECHNOLOGY/STRATEGY

Meeting Greeting

The following are sample text that the meeting host could use to remind participants of the intent to conduct meetings in a green manner:

I want to remind everyone that we are conducting our meeting following green meeting practices, which are intended to:

- **Conserve resources**
- **Reduce environmental impacts**
- **Save money; and**
- **Support Chicago's commitment to environmental stewardship.**

We conduct our meetings in an environmentally friendly manner.

Please use the recycle bins for recyclable items at the end of the meeting.

Please mute all cell phones.

Meeting Planning

Meeting hosts should consider the following when planning for a meeting:

Reduce the number of copies produced by:

- Sharing meeting materials
- Digitizing materials and distributing presentations via email prior to meetings
- Placing materials on the wall (one large print or presented with projector equipment)

If handouts are needed at the meeting, produce handouts:

- Locally
- Double-sided
- Using high post-consumer recycled content paper
- Using chlorine-free paper
- Using vegetable-based inks if available for type of printing
- Print in draft mode (uses less ink)

Something Different: To take advantage of natural light and fresh air, conduct meetings outdoors, when appropriate.

Exhibits and presentation materials:

- Same suggestions as handouts above; and
- Reuse display boards, utilize both front and back sides
- Use low-emitting materials for exhibit displays
- Recycle cardboard and other packaging materials

For the participants not in the building: can they participate by internet/phone?

- Contact the expected meeting participants ahead of time and present them with the option of a video/phone conference via the internet/phone, if appropriate. Costs associated with technical support may still be less than travel/fuel costs in some cases.

What if travel cannot be avoided?

- Can attendees carpool/carshare?
- Provide attendees with mass transit options, such as CTA or Pace Bus, including directions.
- Encourage walking and biking by selecting accessible venues, including directions.
- If overnight stays are involved, suggest hotels nearest the meeting venue that are the most environmentally friendly (www.greenhotels.com). Consider moving the meeting to the hotel if majority of participants are staying at the same hotel, reducing the need for transportation to and from the hotel.

If the meeting is all day or multiple days in a row, how can it be catered in an environmentally friendly way?

- Serve drinks from pitchers, reusable utensils and dishes, and request local produce to cut down on waste when catering for large groups.
- Plan for the pick-up and compost or donation of leftover food to reduce waste.

What if the meeting is held annually?

- Plan for annual meetings at times of the year when temperatures are less extreme to reduce energy consumption due to the use of air conditioning/heat.

Additional details if conducting off-site meetings, such as a conference or workshop...

- Ensure that off-site meeting locations accommodate opportunities for recycling.
- Recycle newspapers, cans, and glass, including those from your guest room, in marked containers in the conference area.
- Participate in the hotel's water, energy, and detergent conservation efforts by following the instructions posted in your room.
- Note the conference's efforts to reduce the use of paper by limiting conference handouts at registration, using folders or handouts printed on high post-consumer recycled content paper, using vegetable-based ink, and encouraging presenters to limit handouts.
- Thank the hotel or off-site location host for providing recycling opportunities, reusable utensils and dishes for breaks, etc.

When the conference/meeting/workshop is over...

- Collect reusable business card holders/name tags in a bin after last meeting.
- Collect presentation materials that are not needed by the attendees that can be donated to local schools, reused or recycled.
- Have attendees fill out an online survey allowing for feedback about the meeting and vendors for future reference and improvement.
- Follow up after the meeting with participants to share green success stories and lessons-learned including statistics from the meeting, such as quantities of recycled materials. Also include a summary document that provides details of the green meeting.

IMPLEMENTATION

1. Make certain that all appropriate recycling bins are located in public meeting areas and conference rooms.
2. Develop message boards for conference rooms, meeting areas, and copy/production areas. (see following pages)
3. Electronically distribute green meeting practices to all staff, team members and routine stakeholders.
4. Post green meeting practices in meeting rooms.
5. Post green meeting practices on Intranet sites (internal).
6. Post green meeting practices on Internet sites (external, public).
7. Include green meeting practices reminders routinely and during annual team meetings.
8. Include a green meeting reminder at the end of meeting minutes to read "This meeting was conducted in accordance with green meeting practices."

1.0 ADMINISTRATIVE PROCEDURES

1.2 Prerequisite 2 – Document Reduction and Recycling Initiative (DRRI)

Required

INTENT

Reduce the volume of paper and facilitate the recycling of documents.

REQUIREMENTS

Follow the Document Reduction and Recycling Initiative (DRRI), which has the following main objectives:

1. Identify and issue only essential paper copies.
2. Promote the use of centralized review rooms for documents and drawings.
3. Provide a simple, yet effective means for recycling documents.

SUBMITTALS

None.

TECHNOLOGY/STRATEGY

Identify and Issue Only Essential Paper Copies (Goal: Minimize Quantities)

Start by producing only electronic copies. Use electronic distribution media for all documents whenever possible, such as; FTP sites, websites, emails, CDs, digital document libraries, memory sticks, etc.

To ensure that only essential paper copies are prepared, there are four (4) questions that need to be asked of each recipient insisting on paper copies:

1. Have you historically performed or do you intend to perform a full review of the applicable document?
2. Does your review require you to look at the entire document/set of plans or only specific sections?
3. Could you conduct your review of the document/plan set and/or the specifications from a digital version?
4. Would you consider reviewing the documents in a designated review room?

If it is ultimately determined that paper copies are necessary, follow guidance provided in Section 1.1.

Centralized Review Rooms (Goal: Centralize Work Function & Minimize Waste)

The DRRI acknowledges that for reviewers to provide a comprehensive review of any design, a complete set of plans must be provided.

A centralized review room should be in a relatively quiet location accessible to all employees needing to review the materials.

Review the use of centralized review rooms periodically to determine use and find ways to promote additional usage by reviewers.

Document Disposal and Recycling (Goal: Minimize Waste, Support Recycling)

The DRRI encourages the recycling of obsolete paper. Documents/plan sets having sensitive information must be safely and securely recycled. The ideas provided below will assist in recycling of documents:

- Ask reviewers to return obsolete documents to the centralized review room.
- Setup a notification informing reviewers to return obsolete documents to the nearest recycling location.
- Add reminders to documents, such as "Return obsolete documents when review concludes" to closeout checklists.

CASE STUDY

Green Procurement
Los Angeles World Airports - Los Angeles, California

For over 10 years, Los Angeles World Airports (LAWA) has been promoting the use of environmentally and socially responsible products in its operations and is committed to increasing its use of such products. LAWA has developed green procurement language to be included in is procurement contracts to encourage the purchase of environmentally and socially responsible products. As part of the Requests for Proposals and Request for Bid documents, LAWA has purchased recycled content office paper, recycled content plastic bags, Green Seal custodial products and other cleaning chemicals. Green Seal is an independent non-profit organization that develops environmental standards for cleaning and other consumer products.

http://www.lawa.org/welcome_LAWA.aspx?id=1036

1.0 ADMINISTRATIVE PROCEDURES

1.3 Establish and Adopt a Corporate Sustainability Policy

1 Point

INTENT

In keeping with the spirit and intent of this Manual, it is strongly encouraged that companies working in support of CDA on any project establish and adopt their own corporate policy on sustainable practices.

REQUIREMENTS

Establish and adopt a Corporate Sustainability Policy.

SUBMITTALS

Provide an electronic copy of the company's Corporate Sustainability Policy.

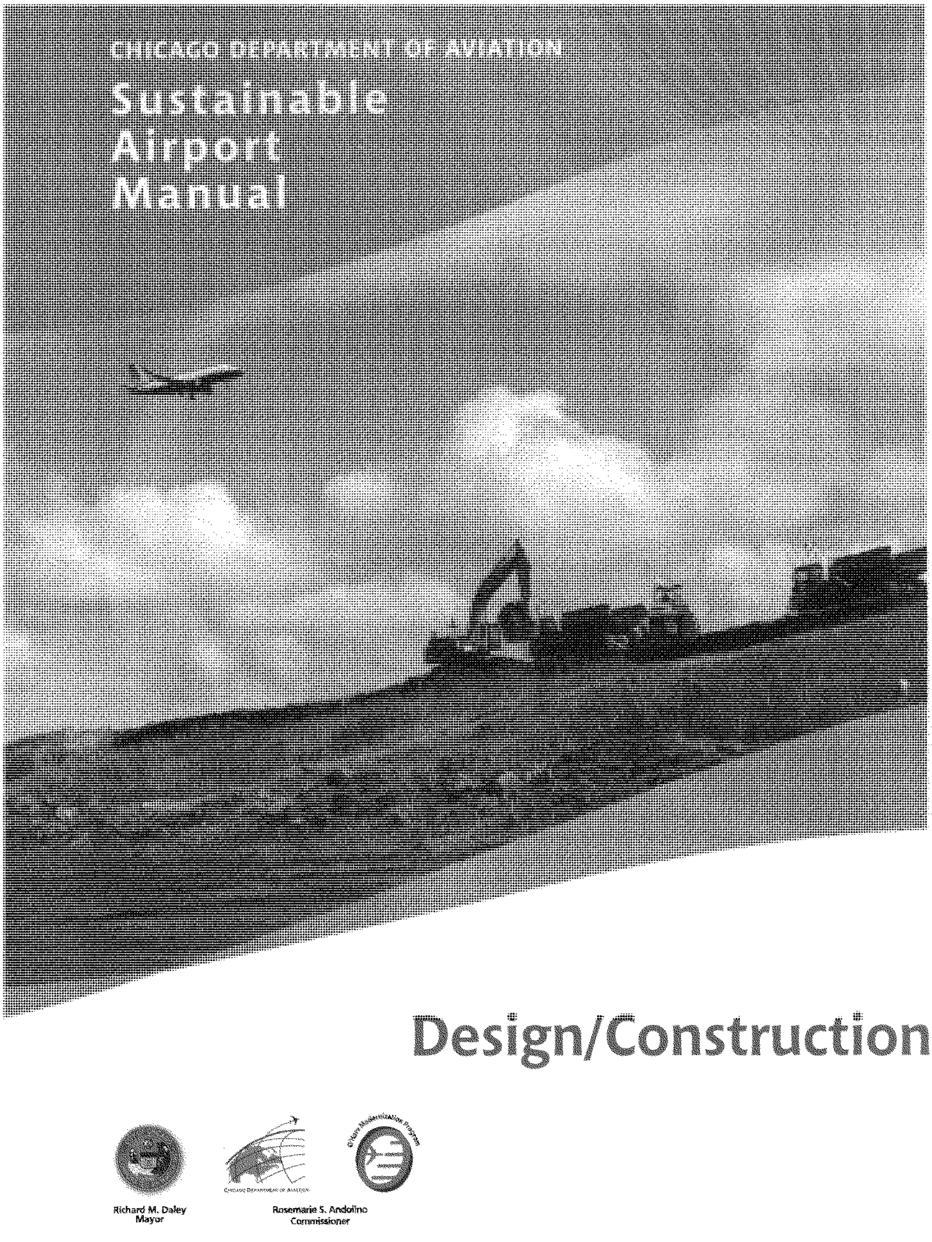
NOTE: If available, please provide an electronic copy of your annual sustainability report documenting any new measures and results.

CASE STUDY

Sustainability: Essential to Our Business
Coca-Cola

In 2002, The Coca-Cola Company and six of their largest bottling partners developed a strategy for sustainability. That plan focuses on the role and impact of the Coca-Cola system in four key areas: workplace, marketplace, environment and community. They use this strategy to guide their approach to sustainability issues and to report their progress.

http://www.thecoca-colacompany.com/citizenship/strategic_vision.html



CHICAGO DEPARTMENT OF AVIATION

Sustainable Airport Manual

Design/Construction

Richard M. Daley
Mayor

Rosemarie S. Andolino
Commissioner

…We acknowledge our designers and contractors for their achievements. Going green doesn't always have to cost a lot of green. We were able to save over a hundred million dollars by implementing an earthwork management plan and by utilizing recycled asphalt through our resurfacing program…
The Chicago Department of Aviation will continue to evolve as a benchmark for environmental stewardship in airport design and construction…

Rosemarie S. Andolino
Commissioner
Chicago Department of Aviation

…the use of green walls inside the terminal can add great aesthetic benefits, as well as improve indoor air quality, and enhance the experience for airport employees and travelers…
Michael Berkshire
Chicago Department of Zoning and Land Use Planning

…The key in the design process is to make sure that right up front you have made everyone aware that you intend to include sustainability in the project…
Ted J. Woosley
Landrum & Brown

---

airportsgoinggreen.org

Comments? Case Studies?
Lessons-Learned? New Technologies?
SAMinfo@cityofchicago.org

DESIGN/CONSTRUCTION
INTRODUCTION

The Sustainable Airport Manual (SAM) has been written with consideration of four general project categories that are relevant to airport design and construction projects. These project categories are defined below:

- **Civil – Airside**: Projects located inside of the Air Operations Area (AOA) that do not include normally occupied structures and consist mainly of horizontal structures such as subsurface utilities, earthwork, pavement, roadways, bridges, tunnels, and water conveyances. Projects may include but are not limited to runways, taxiways and shoulders, airside roads and perimeter roads, stormwater conveyance systems, stormwater detention facilities, electrical lighting systems, navigational aids, airport utility systems, vehicle parking facilities, and fencing.

- **Civil – Landside**: Projects located outside of the AOA that do not include normally occupied structures and consist mainly of horizontal structures such as subsurface utilities, earthwork, pavement, roadways, bridges, tunnels, and water conveyances. Projects may include but are not limited to guard post relocation, roads, tunnels and bridges, perimeter roads, stormwater conveyance systems, stormwater detention facilities, creek relocations, electrical lighting systems, airport utility systems, vehicle parking facilities and fencing, and railroad relocation.

- **Occupied Buildings**: Projects consisting of facilities and associated surroundings that, when construction is complete, will be normally occupied by employees and passengers. These facilities may include but are not limited to terminals, concourses, access guard posts, airport communications building, air rescue and fire fighting facilities, cargo facilities, and air traffic control towers.

- **Unoccupied Buildings**: Projects consisting of facilities and associated surroundings that, when construction is complete, will be unoccupied. These may include but are not limited to pump stations, lighting vaults, and fuel stations.

Projects are rated on the achievement of credits depending on the appropriate stage of the project, based on sustainable elements included in the project from the following categories:

1.0 Administrative Procedures (applies to any type of project as well as everyday operations and activities)

Applies to DESIGN/CONSTRUCTION projects:

2.0 Sustainable Site Management
3.0 Water Efficiency
4.0 Energy & Atmosphere
5.0 Materials & Resources
6.0 Indoor Environmental Quality
7.0 Construction Practices
8.0 Innovation in Design/Construction Process
9.0 Regional Priority

Each category contains a specific number of credits, against which each project is evaluated in order to determine that project's earned points. The number of points earned is then translated into a rating. There are specific weighted point thresholds (i.e. applicable credits) for each of the four project categories – civil-airside, civil-landside, occupied buildings, and unoccupied buildings, so as not to inadvertently penalize a project for not achieving points that would not be applicable. The list of credits and point thresholds applicable to each project type are summarized in **Appendix A – Sustainable Airport Manual Green Airplane Rating System**.

PROCESS

Within the Manual's main body, each sustainable design credit has four subsections: Intent, Requirements, Submittals, and Technology/Strategy, as described below:

- **Intent**: The primary motivations for any sustainable practice.
- **Requirements**: Specifies institutional, operational, and mechanical design or construction elements that satisfy the intent. The prerequisites must be achieved; the credits are optional, but contribute to the overall project rating.
- **Submittals:** Required and supporting documentation and/or information required to achieve applicable prerequisites or credits. This documentation may include calculations, short narratives, or references to specification sections or design drawings indicating how the requirements are being met.

Technology/Strategy: Highlights specific ways of meeting the recommendations within the scope of work for each specific project. Case studies where available, are presented to help guide the application of sustainable credits to design and construction projects. To aid with consideration of applicable strategies and technologies, they are organized into the following three categories; "Standard Practice," "Recommended Practice," and "Best Available Practice."

- ○ **Standard Practice**: These are requirements that may be due to standards, specifications, codes, general best management or construction practices. They are practices already in place, and in many cases SAM prerequisites, which also serve to meet sustainable goals.
- ○ **Recommended Practice**: These include recommendations that are expected to have insignificant impacts to cost and are therefore, encouraged to be incorporated into the design process.
- ○ **Best Available Practice**: These are strategies and practices that are expected to enhance the environmental design efforts of the Chicago Department of Aviation (CDA), but are anticipated to potentially have an impact on the cost and/or schedule. Designers are encouraged to explore the cost/environmental benefit ratio for such guidelines in order for incorporation into project design to the greatest extent practicable.

While not all strategies will be applicable to every project category, design and construction teams are highly encouraged to think creatively and to consider the intent of each issue throughout the decision process. In all cases, it is the responsibility of the design and construction teams to evaluate and review with the Chicago Department of Aviation any anticipated cost or schedule impact.

SUBMITTALS

Sustainable Airport Manual (SAM) Checklists

Incorporation of sustainable elements into the design and construction of a project is tracked using a checklist in order to determine the number of applicable credits described in this Manual. The SAM *Design* Checklist is completed by the designer. It is then used by the contractor/CM to develop the SAM *Construction* Checklist. The purpose of the SAM *Design* Checklist is to indicate proposed sustainable design elements during the design phase, while the purpose of the SAM *Construction* Checklist is to allow verification and finalization of actual data related to the project's construction phase. The checklists are provided in **Appendix B**.

NOTE
All design teams must have a LEED Accredited Professional. Their responsibility is to complete or oversee the completion of the SAM Design and Construction Checklists and their implementation.

In order to achieve points certain requirements need to be met, as outlined in each credit. At periodic review meetings throughout the design process, the design team must demonstrate how and to what extent these credits will be achieved. The means by which this is demonstrated will vary. In some instances, studies and calculations would be appropriate. In other instances, this will be accomplished through product and material data or through referenced standards or specifications.

For some credits, the responsibility to meet the intent of the credit will be primarily the contractor's responsibility. In these cases, specifications are developed by the designer to clearly detail the execution and submittal requirements the contractor must follow. In addition to review of the checklist, the Sustainable Review Panel (SRP) will review any supporting documentation including calculations, specifications, and contractor's submittals as needed to support the achievement of the credit(s). See Section titled *Implementation and Review Process* for detailed information about the SRP.

SAM GREEN AIRPLANE RATING SYSTEM

The SAM Green Airplane Rating System uses a five tier approach to rating projects based on the four project types. "Green Airplane Certification" symbols are used to designate achievement levels.

The thresholds for each project type are summarized in the Tables 1 and 2 below:

TABLE 1 –SAM Green Airplane Rating System (Design)

Green Airplanes / Prerequisites	Civil-Airside	Civil-Landside	Occupied Buildings	Unoccupied Buildings	Reference LEED 2009 Rating System:
	8	8	13	12	
✈	2-16	2-17	2-40	2-31	
✈✈	17-20	18-22	41-50	32-39	Certified
✈✈✈	21-25	23-26	51-60	40-47	Silver
✈✈✈✈	26-33	27-35	61-80	48-63	Gold
✈✈✈✈✈	34-47	36-50	81-112	64-88	Platinum
MAXIMUM	**47**	**50**	**112**	**88**	

TABLE 2 –SAM Green Airplane Rating System (Construction)

Green Airplanes / Prerequisites	Civil-Airside	Civil-Landside	Occupied Buildings	Unoccupied Buildings	Reference LEED 2009 Rating System:
	8	8	13	12	
✈	2-19	2-20	2-43	2-34	
✈✈	20-24	21-25	44-54	35-42	Certified
✈✈✈	25-28	26-30	55-64	43-51	Silver
✈✈✈✈	29-38	31-40	65-86	52-68	Gold
✈✈✈✈✈	39-54	41-57	87-120	69-95	Platinum
MAXIMUM	**54**	**57**	**120**	**95**	

IMPLEMENTATION AND REVIEW PROCESS

The SAM and its supporting documentation are administered by the Sustainable Review Panel (SRP), which consists of representatives of the CDA Management Staff, CDA Design and Construction Staff and Representatives, OMP Project Management Office (PMO) and Master Civil Engineer (MCE), and Airport Planners actively involved in CDA projects. The composition of the SRP is intended to be dynamic depending on each airport's unique needs.

The SRP is responsible for the review of project designs with respect to sustainable design and provides technical support to the Construction Manager (CM) of each project in relation to sustainable practices appropriate for the construction phase. The SRP is responsible for review of every design and construction project and for the awarding of "Green Airplane Certification" ratings based on the extent of incorporation of sustainable practices as outlined in this Manual and as documented on the submitted SAM Checklist(s). Other responsibilities of the SRP include preparation and review of sustainable design related specifications, technical memoranda, and miscellaneous documents, as necessary. In addition, the SRP is responsible for presentations and training to project team members with respect to the application of this Manual. The primary tasks of the SRP are to oversee the application of the Manual and review design and construction submittals for their compliance with the Manual. The review process is outlined in **Figure 1**.

Just as any airport can easily customize the Chicago-specific guidance elements within the SAM, the composition of a SRP can also be tailored to an airport's unique needs.

Design Phase

Current Requests for Proposals (RFPs) for design services include language indicating that requirements of this Manual must be incorporated as part of the design process for all projects. The designer is to incorporate language regarding all supporting specifications and requirements in the Contract Documents consistent with the requirements described in this Manual. After a project is awarded to a Design Team, SRP representatives will meet with the designers during the kick-off meeting to outline the project goals for sustainability. Contract documents require that each design team include at least one LEED Accredited Professional. It is encouraged that the LEED Accredited Professional be present at all sustainability-related meetings, including the project kick-off meeting. The SAM Design Checklist is discussed in detail at the kick-off meeting, as it is one of the primary deliverables from the Design Team, as well as the supporting documents and specifications that must accompany the submittal. At this meeting, the designer is given an electronic copy of the Manual and electronic copies of all relevant specifications, checklists, calculations spreadsheets, and templates, including instructions for completion of each form. Certain credits pertain to specifications and standards that are included in every contract (e.g. 01111 – Construction Air Quality or 01524 – Waste Management). In most cases, the specification indicates the submittal requirements. The credit descriptions in this Manual describe the submittal requirements that must be satisfied in order to meet the credit.

As part of the standard design review process, the SAM Design Checklist and supporting documents are reviewed at each milestone (typically 30%, 60%, 90%, and 100% design submittals) against the goals set forth by the Manual. Review comments on the Checklist are submitted along with the design-related review comments.

At the 100% design milestone, the SRP will meet to discuss the project's Checklist and collectively determine any final comments for the Design Team before completion. When the 100% design documents have been completed, the SRP meets again to determine and award the Green Airplane Certification for Sustainable Design (i.e. the number of Green Airplanes to be awarded to the project design).

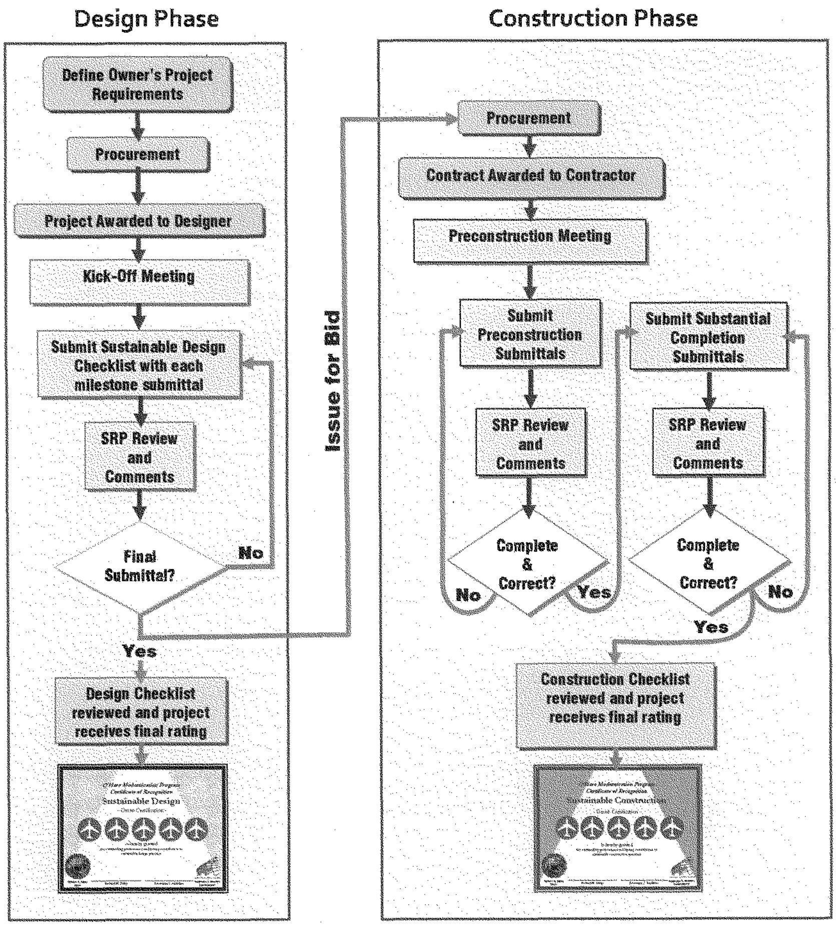

Design Phase
Construction Phase
Define Owner's Project Requirements
Procurement
Project Awarded to Designer
Kick-Off Meeting
Submit Sustainable Design Checklist with each milestone submittal
SRP Review and Comments
Final Submittal?
No
Yes
Design Checklist reviewed and project receives final rating
Issue for Bid
Procurement
Contract Awarded to Contractor
Preconstruction Meeting
Submit Preconstruction Submittals
SRP Review and Comments
Complete & Correct?
No
Yes
Submit Substantial Completion Submittals
SRP Review and Comments
Complete & Correct?
No
Yes
Construction Checklist reviewed and project receives final rating
Sustainable Design
Sustainable Construction

Figure 1 - Sustainable Review Process during Design and Construction

Construction Phase

The Manual is referenced in the General Conditions of the project's Contract Documents. The contractor is obligated to meet all the requirements of the Manual and the supporting specifications and submittals. Compliance with these requirements is verified by the Construction Manager (CM) prior to project closeout. This is verified by the Sustainable Design Compliance section of the project's Closeout Log. As the project continues through Bid Issue and then Construction phase, the SRP will meet with the CM and contractor at the pre-construction meeting to discuss the process and the deliverables with emphasis on what is required by the contractor and the CM. At this time, additional opportunities and goals are identified for the construction phase and the contractor and CM are encouraged to raise awareness of sustainable design and construction issues with the remaining staff. The SRP works with the CM as the main point of contact. The CM is required to obtain the required documentation from the Contractor, although in some cases information may be received directly from the Contractor (e.g. the fuel usage logs).

For the construction phase, some up-front submittals are required, e.g. Construction Waste Plan, preconstruction estimates on regional and recycled material quantities that are reviewed at the beginning of the project. Fuel usage is tracked monthly throughout the project's duration. The SAM Construction Checklist is reviewed and finalized when the project reaches substantial completion.

After substantial completion, the SRP will determine whether all items proposed in the Design Checklist were completed and are reflected in the SAM Construction Checklist or discuss/identify variances. At completion, the SRP will determine and award the Green Airplane Certification for Sustainable Construction.

Commissioning

Whenever applicable, project commissioning is encouraged. Commissioning can provide long-term benefits for the project/building owner, as well as its users and occupants. Commissioning is covered in the Energy & Atmosphere section.

2.0 SUSTAINABLE SITES

2.1 Prerequisite 1 – Construction Activity Pollution Prevention

Required

INTENT

Reduce pollution from construction activities by controlling soil erosion, waterway sedimentation and airborne dust generation.

REQUIREMENTS

Create and implement an Erosion and Sedimentation Control (ESC) Plan for all construction activities. The ESC Plan shall conform to the erosion and sedimentation requirements of the 2003 EPA Construction General Permit OR local erosion and sedimentation control standards and codes, whichever is more stringent. The Plan shall describe the measures implemented to accomplish the following objectives:

- Prevent loss of soil during construction by stormwater runoff and/or wind erosion, including protecting topsoil by stockpiling for reuse.
- Prevent sedimentation of storm sewer or receiving streams.
- Prevent pollution of the air with dust and particulate matter using BMPs.

(see SAM Credit 2.2 Prerequisite 2 – Adopt CDA Best Management Practices)

The Construction General Permit (CGP) outlines the provisions necessary to comply with Phase I and Phase II of the National Pollutant Discharge Elimination System (NPDES) program. While the CGP only applies to construction sites greater than 1 acre, the requirements are applied to all projects for the purposes of this prerequisite. Information on the EPA CGP is available at: http://cfpub.epa.gov/npdes/stormwater/cgp.cfm.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Create an Erosion and Sedimentation Control Plan during the design phase of the project. Consider employing strategies such as temporary and permanent seeding, mulching, earth dikes, silt fencing, sediment traps and sediment basins.

Standard Practice

CDA's current construction activities meet the basic requirements of this strategy:

- Develop an erosion and sediment control strategy plan to be implemented by stages and phases to control erosion at the source and retain sediment on the construction site.

- Incorporate temporary sedimentation basins, temporary ditch checks, diversion dikes, temporary ditches, pipe slope drains into the construction plans.
- For dust control: tarp truckloads, sweep streets as needed, stabilize construction entrances, spray site as necessary to minimize fugitive dust.
- Establish temporary and permanent seeding plans consistent with the following OMP Master Specifications:
  - T-901, Seeding, Volume IIIC, Rev. 4, Issued 02/05/07 (or current)
  - P-156, Temporary Air and Water Pollution, Soil Erosion, and Sediment Control, Volume IIIC, Rev. 9, Issued 1/30/2009 (or current)
  - 02905, Sustainable Airport Landscaping, Volume IIIA, Rev. 6, Issued 08/08/08 (or current)

For any proposed plant species not listed, consult an FAA certified airport biologist to ensure the plants will not attract wildlife.

Recommended Practice

None.

Best Available Practice

- Monitor water quality impacts before and during construction.
- Develop an inventory of topsoil for potential re-use.
- Develop a policy to chip or compost all vegetation for re-use on site.

2.0 SUSTAINABLE SITES

2.2 Prerequisite 2 – Adopt CDA Best management Practices

Required

INTENT

Minimize the environmental impacts of facility operations.

REQUIREMENTS

Adopt the CDA Best Management Practices (BMP) Manual.

Depending on the project, the owner, tenant, or ultimate occupant must incorporate the CDA BMP Manual into their tenant or lease agreement.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

The BMP Manual defines the practices and measures used to reduce or eliminate the amount of pollution to the environment surrounding O'Hare and Midway International Airports. The BMPs are typically in the form of a procedure, activity, or structural control.

Standard Practice

The BMP Manual has been in effect since August 2002. There are a number of practices already implemented at O'Hare and Midway via this manual. Many of these practices deal with pollution prevention for all airport entities.

Recommended Practice

None.

Best Available Practice

None.

2.0 SUSTAINABLE SITES

2.3 Brownfield Redevelopment

1 Point

INTENT

Rehabilitate damaged sites where development is complicated by environmental contamination, reducing pressure on undeveloped land.

REQUIREMENTS

Develop on a site documented as contaminated (by means of an ASTM E1903-97 Phase II Environmental Site Assessment or a local Voluntary Cleanup Program)

OR

Develop on a site defined as a brownfield by a local, state or federal government agency.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

During the site selection process, give preference to brownfield sites. Identify tax incentives and property cost savings. Coordinate site development plans with remediation activity, as appropriate.

Standard Practice

- The following strategies are required by IEPA* for any development in a brownfield:
  - Develop and implement a site remediation plan using strategies such as pump-and-treat, bioreactors, land forming and on-site remediation. Remediation would meet the standards identified in the Illinois Tiered Approach to Corrective Action (TACO).
  - Opportunity to enter into the Illinois Site Remediation Program (voluntary cleanup program) that offers a No Further Remediation (NFR) Letter.

*or relevant state agency

Recommended Practice

Any recommendations are dependent upon site characteristics. Monitoring is suggested as site conditions warrant.

Best Available Practice

Cleanup requirements will be dependent on site conditions, applicable remediation standards, and timing requirements.

CASE STUDY

Airport Redevelopment Site
Stapleton Airport - Denver, Colorado

Stapleton International Airport was abandoned in 1995 to allow for the commissioning of Denver International Airport. After significant contamination remediation, the site was redeveloped to allow for a master-planned community. Using strict environmental standards, contaminated soil was investigated and removed.

http://www.progressiveengineer.com/features/new_life_old_airport.htm

2.0 SUSTAINABLE SITES

2.4.1 Alternative Transportation, Public Transportation Access

6 Points

INTENT

Reduce pollution and land development impacts from automobile use.

REQUIREMENTS

Locate project within 1/2 mile walking distance (measured from main building entrance) of an existing or planned and funded commuter rail, light rail, or subway station (measured from the building entrance).

OR

Locate project within 1/4 mile walking distance (measured from main building entrance) of one or more stops for two or more public, campus, or private bus lines usable by building occupants.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Perform a transportation survey of future building occupants to identify transportation needs and share results to encourage knowledge and use of mass transit. Whenever possible, co-locate buildings and mass transit and provide clear directional signage.

Standard Practice

- CDA's current transportation plan meets the basic requirements of this strategy.
- Shuttle buses and ATS transportation are currently available.

Recommended Practice

Work with CDA to plan for and implement strategies aimed at the following goals:
- Improve and/or increase public transportation access from the City and suburbs.
- Reduce parking needs.
- Improve efficiency of access.

Best Available Practice

Below are additional suggestions that could further support an inter-modal public transportation network. Teams should consider impact of future implementation.

- Provide incentives to employees to use public transportation, car-pooling and shuttles.
- Consolidate rental car facilities and mini-bus transportation to minimize congestion on terminal roads. Consider the use of an alternate fuel mini-bus fleet to reduce vehicle emissions and carbon footprint.
- Operate satellite 'check-in' facilities (downtown and suburban locations) to minimize congestion on terminal access roads and encourage use of public transportation.
- Construct airport to airport (O'Hare-Midway) high-speed rail connection.
- Develop Airport-Downtown express connection, including satellite check-in facilities.
- Develop additional train/mass transit service to/from the suburbs.
- To ease in local understanding of available modes of alternative transportation, airports can include mass-transit routes on an airport area map.

CASE STUDY

Electric Transit
Charles De Gaulle International Airport - Paris, France

In April 2007, Charles de Gaulle International Airport in Paris France commissioned a new automatic metro line, the Charles de Gaulle Véhicule Automatique Léger (CDGVAL). The metro line is a free driverless train transferring passengers and 85,000 airport employees. The CDGVAL links three airport terminals, TGV/RER stations, and long-term parking lots. The CDGVAL is a 100 percent electric, making it possible to save 750 tons of fuel per year and decreases 15 tons of NO_x and 2,500 tons of CO_2 released annually by the buses. It also decreases travel time between the two furthest points on the system by more than 50 percent.

http://www.enviro.aero/CharlesDeGaulleAirport.aspx

2.0 SUSTAINABLE SITES

2.4.2 Alternative Transportation, Bicycle Access, Storage & Changing Rooms

1 Point

INTENT

Reduce pollution and land development impacts from automobile use.

REQUIREMENTS

For commercial or institutional buildings, provide secure bicycle racks and/or storage (within 200 yards of a building entrance) for 5% or more of all building users (measured at peak periods), AND, provide shower and changing facilities in the building, or within 200 yards of a building entrance, for 0.5% of Full-Time Equivalent (FTE) occupants.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Design the building with transportation amenities such as bicycle racks and showering/changing facilities such that employees are encouraged to use bicycles, therefore reducing parking needs.

Bicycle access may require coordination with airport security.

Standard Practice

Although bicycle access to secured areas may be limited, perimeter facilities often have bicycle access and shower rooms available.

Recommended Practice

Include bicycle storage facilities and changing rooms where possible. Locate perimeter facilities in areas that provide a continuity of safe bicycle access from the adjoining community.

Best Available Practice

- Provide safe bicycle lanes/paths.
- Provide a centralized facility(s) for secure bicycle storage with convenient changing/shower areas.
- Provide incentives to employees to bike to work.
- Develop a bicycle-access master plan.

CASE STUDY

Bike to Work Plan
Chicago O'Hare International Airport – Chicago, Illinois

The Chicago Department of Aviation promotes employee bicycle commuting, in support of the goals and objectives set forth in the City of Chicago Bike 2015 Plan. Airport employees are encouraged to bike to work, year-round. The program allows indoor employee bike storage, the installation of employee bike racks at the airport, the availability of lockers and showers for employees. Additionally, an Airport Bike Ambassador has been designated to take any bike-related questions, suggestions and concerns.

http://www.flychicago.com/environment/OhareBiketoWork.shtm

2.0 SUSTAINABLE SITES

2.4.3 Alternative Transportation, Low-Emitting and Fuel-Efficient Vehicles (Non-Construction)

3 Points

INTENT

Reduce pollution and land development impacts from automobile use.

REQUIREMENTS

OPTION 1

Provide low-emitting and fuel-efficient vehicles for 3% of Full-Time Equivalent (FTE) occupants

AND provide preferred parking for these vehicles.

OR

OPTION 2

Provide preferred parking for low-emitting and fuel-efficient vehicles for 5% of the total vehicle parking capacity of the site. Provide discounted parking rates as an acceptable substitute for preferred parking for low-emitting/fuel efficient vehicles. In order to establish a meaningful incentive in all potential markets, the parking rate must be discounted at least 20%. This approach is acceptable as long as the discounted rate is available for all customers (not limited to the number of customers equal to 5% of the vehicle parking capacity) and publicly posted at the entrance to the parking deck.

OR

OPTION 3

Install alternative-fuel refueling stations for 3% of the total vehicle parking capacity of the site (liquid or gaseous fueling facilities must be separately ventilated or located outdoors).

OR

OPTION 4

Provide to building occupants, access to a hybrid car sharing program. The following requirements must be met:

1. One low-emitting or fuel-efficient vehicle/car must be provided per 8 people;
2. A car sharing contract demonstrating an agreement of at least 2 years must be provided;
3. Documentation of the car sharing program's customers served/car estimates and a narrative explaining the car-share program and its administration must be provided;
4. The low-emitting and fuel-efficient vehicle/car parking must be located in the nearest available spaces in the nearest available parking area; provide a site plan or area map clearly highlighting the walking path from the parking area to the project site and noting the distance.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Provide transportation amenities such as alternative fuel refueling stations. Consider sharing the costs and benefits of refueling stations with neighboring communities and the airport's policy on alternative fuel options and preferences.

Standard Practice

- CDA already has programs for alternative fuel vehicles within the airport operations. Design so that these programs are enhanced and supported.

Recommended Practice

- Consider local policies and preferences when considering new alternative fueling infrastructure development.

Best Available Practice

- Increase use of alternative fuel vehicles for airport operations particularly indoor cargo operations.
- Provide preferred parking for staff and public alternative fuel vehicles.
- Install alternative fuel refueling stations for public use.
- Plan for the development of preferred parking and/or lot locations for rental fleets, which offer alternative fuel rental vehicles.
- Encourage electrical receptacle in public parking garages for charging of electric vehicles.

CASE STUDIES

Reduced Access Fee for Hybrid Taxis
Denver International Airport - Denver, Colorado

The environment will benefit from the reduced carbon emissions and air pollution that result from substituting hybrid taxis for conventional taxis. As a result, one of Denver International Airport's many sustainable initiatives is to offer fee reductions for hybrid taxis which serve the airport. In addition to this incentive, Denver International Airport established a transportation and maintenance fleet, which is 100% alternative-fueled and includes vehicles powered by compressed natural gas, hybrid technology and biodiesel.

http://www.faa.gov/airports/northwest_mountain/airports_news_events/annual_conference/2008/media/dia_ii.pdf
http://www.greenprintdenver.org/docs/DenverClimateActionPlan.pdf.

Preferred Parking for Carpoolers
Denver International Airport - Denver, Colorado

Denver International Airport has launched an aggressive program to encourage carpooling which offers reduced parking costs for carpoolers. Additionally, the airport offers designated locations which include unreserved spaces typically in close proximity to employee or passenger access points.

www.flydenver.com/environmental

Hydrogen Fuel Cell Vehicles
Los Angeles World Airports – Los Angeles, California

Los Angeles World Airports developed the first hydrogen fueling and generation station at Los Angeles International Airport. This facility demonstrates a comprehensive alternative fueled vehicle program that can be incorporated into daily airport operations both on and off the airfield.

http://aci-na.org/static/entransit/Going%20Green%209-7-07.pdf

2.0 SUSTAINABLE SITES

2.4.4 Alternative Transportation, Parking Capacity

2 Points

INTENT

Reduce pollution and land development impacts from single occupancy vehicle use for employees.

REQUIREMENTS

OPTION 1 — NON-RESIDENTIAL

> Size parking capacity to meet, but not exceed, minimum local zoning requirements, AND, provide preferred parking for carpools or vanpools for 5% of the total provided parking spaces.

OR

OPTION 2 — NON-RESIDENTIAL

For projects that provide parking for less than 5% of FTE building occupants:

> Provide preferred parking for carpools or vanpools, marked as such, for 5% of total provided parking spaces.

OR

OPTION 3 — RESIDENTIAL

> Size parking capacity to not exceed minimum local zoning requirements, AND, provide infrastructure and support programs to facilitate shared vehicle usage such as carpool drop-off areas, designated parking for vanpools, or car-share services, ride boards, and shuttle services to mass transit.

OR

OPTION 4 — ALL

> Provide no new parking.

OR

OPTION 5 – MIXED USE (Residential with Commercial)

For mixed-use buildings with less than 10% commercial area, the entire building should be considered residential and adhere to the residential requirements in Option 3. For mixed use buildings with greater than 10% commercial area, the commercial space is to adhere to Non-Residential requirements, while the residential component is to adhere to residential requirements. Note - This option is for a mixed use building that is residential and commercial (or retail) as opposed to office and retail (non-residential building)

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Minimize employee parking lot/garage size. Consider sharing parking facilities with adjacent buildings. Consider alternatives that will limit the use of single occupancy vehicles.

Standard Practice

None.

Recommended Practice

None.

Best Available Practice

- Provide preferred parking for vanpools and carpools for staff.
    - Preferred Parking refers to the parking spots that are closest to the main entrance of the project, exclusive of spaces designated for handicapped, or spaces designated for specific users.
- Parking garages can reduce the overall footprint while providing needed capacity.

2.0 SUSTAINABLE SITES

2.5.1 Stormwater Design, Quantity Control

1 Point

INTENT

Limit disruption of natural water hydrology by reducing impervious cover, increasing on-site infiltration, reducing or eliminating pollution from stormwater runoff, and eliminating contaminants.

REQUIREMENTS

CASE 1 — EXISTING IMPERVIOUSNESS IS LESS THAN OR EQUAL TO 50%

Implement a stormwater management plan that prevents the post-development peak discharge rate and quantity from exceeding the pre-development peak discharge rate and quantity for the one- and two-year 24-hour design storms.

OR

Implement a stormwater management plan that protects receiving stream channels from excessive erosion by implementing a stream channel protection strategy and quantity control strategies.

OR

CASE 2 — EXISTING IMPERVIOUSNESS IS GREATER THAN 50%

Implement a stormwater management plan that results in a 25% decrease in the volume of stormwater runoff from the two-year 24-hour design storm.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Design the project site to maintain natural stormwater flows by promoting infiltration. Specify vegetated roofs, pervious paving, and other measures to minimize impervious surfaces. Reuse stormwater volumes generated for non-potable uses such as landscape irrigation, toilet and urinal flushing and custodial uses.

Standard Practice

Because many airside pavements have the potential for deicing fluid and jet fuel contamination, technologies that increase infiltration to the subsurface are not used. On landside projects, or for areas not subject to aviation-related contaminants, these methods are encouraged. A number of green vegetated roofs have already contributed toward this goal.

Recommended Practice

- Evaluate pervious pavements for roadways, shoulders, non-traffic pavements, maintenance roads, utility yards, airside and landside parking facilities, and pedestrian areas. Peak storm water runoff rates could be reduced. Storm sewer conveyance systems could be designed with reduced diameter pipes and fewer inlets.
- Install landscape to reduce runoff. See discussion of "Water Efficient Landscaping".
- Evaluate curb breaks and drainage ditches, and/or bioswales.

Best Available Practice

- Encourage installation of systems that are flexible to allow use of graywater.
- Use of "extensive" green roof systems encourages filtration and treatment of rainwater, evaporation of rainfall to the atmosphere and storm water retention. Use plantings consistent with OMP Master Specifications Section 02905, Sustainable Airport Landscaping, Volume IIIA, Rev. 6, Issued 08/08/08 (or current). For any proposed plant species not listed, consult an FAA certified airport biologist to ensure the plants will not attract wildlife.
- Use rainwater cisterns for landside irrigation during the plant growth season. Storm water runoff from the collection systems would be directed into the cisterns for storage. Collected water would be utilized for irrigation during dry periods. Cisterns would attenuate peak storm water runoff flows to the downstream storm sewer systems. Cisterns improve water quality by the removal of sediments due to the reduced velocities of flow in the system. (Sediment must be periodically removed.)
- Encourage extensive use of permeable pavement, where applicable.

CASE STUDIES

North Air Traffic Control Tower
Chicago O'Hare International Airport - Chicago, Illinois

The proposed site for the new North Air Traffic Control Tower was an existing parking lot with an impervious area of 89 percent. The new development greatly reduced the impervious area of the site to 43 percent. Because the existing site had an impervious area greater than 50 percent, in order to meet the requirement of this credit, the rate and quantity of stormwater runoff needed to be reduced by 25 percent. By reducing the impervious area of the new development by 46 percent or 47,200 square feet, the project met the requirements of this credit.

Terminal Building Cooling System
New Chitose Airport - Hokkaido, Japan

The New Chitose Airport terminal building in Hokkaido, Japan, will utilize a new cooling system by the fiscal year 2010. The transport ministry plans to collect snow during the winter and preserve it to provide 30 percent of the building's cooling needs during the summer. Of the snow collected throughout the winter, approximately 45 percent of the snow is preserved for the summertime through the use of heat-insulating materials. The collected snow would be used to chill the liquid of the building's cooling system. This practice could stave off 2,100 tons of carbon dioxide emissions per annum compared to using the building's existing cooling system.

http://www.goodcleantech.com/2008/10/new_chitose_airport_in_japan_t_1.php

Stormwater Quality Initiative
Denver International Airport - Denver, Colorado

Denver International Airport was built with a dedicated system for the capture, conveyance, treatment, and discharge of stormwater contaminated with aircraft deicing fluids. The system includes seven dedicated deicing pads, five wastewater retention ponds, and an onsite deicing fluid recycling facility.

http://aci-na.org/static/entransit/Going%20Green%209-7-07.pdf

2.0 SUSTAINABLE SITES

2.5.2 Stormwater Design, Quality Control

1 Point

INTENT

Limit disruption and pollution of natural water flows by managing stormwater runoff.

REQUIREMENTS

Implement a stormwater management plan that reduces impervious cover, promotes infiltration, and captures and treats the stormwater runoff from 90% of the average annual rainfall using acceptable CDA Best Management Practices (BMPs). BMPs used to treat runoff must be capable of removing 80% of the average annual post development total suspended solids (TSS) load based on existing monitoring reports. BMPs are considered to meet these criteria if (1) they are designed in accordance with standards and specifications from a state or local program that has adopted these performance standards, or (2) there exists in-field performance monitoring data demonstrating compliance with the criteria. Data must conform to accepted protocol (e.g., Technology Acceptance Reciprocity Partnership [TARP], Washington State Department of Ecology) for BMP monitoring.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Use alternative surfaces (e.g., vegetated roofs, pervious pavement or grid pavers) and nonstructural techniques (e.g., rain gardens, vegetated swales, disconnection of imperviousness, rainwater recycling) to reduce imperviousness and promote infiltration thereby reducing pollutant loadings. Use sustainable design strategies (e.g., Low Impact Development, Environmentally Sensitive Design) to design integrated natural and mechanical treatment systems such as constructed wetlands, vegetated filters, and open channels to treat stormwater runoff.

Standard Practice

Because of the potential for deicing fluid contamination, the use of these technologies must be weighed carefully to prevent larger contaminant issues, such as infiltration of ground water. Just as in SAM Credit 2.5.1, this credit is more applicable for landside uses or places that are not subject to aviation-related contaminants although some exceptions may be possible.

Recommended Practice

- Evaluate Best Management Practices outlined in Chapter 4, Part 2 (Urban Runoff), on the United States environmental Protection Agency's Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, January 1993 (document No EPA-840-B-92-002).
- Evaluate first flush systems including slotted edge drains connected to underground holding tanks. First flush sediment would settle in the tanks and be removed at a later date for treatment and/or disposal.
- Evaluate detention basins, detention ditches, ditch checks and other CDA BMPs for effective first flush treatment.
- Evaluate bioswales along roadways and parking areas to encourage groundwater infiltration of stormwater runoff for landside areas. These strategies should be designed to discourage wildlife habitat.
- Minimize current treatment of all stormwater by reducing runoff. See discussion of "Stormwater Design – Quantity Control" (SAM Credit 2.5.1)
- Evaluate pervious pavements for roadways, shoulders, non-traffic pavements, maintenance roads, utility yards, airside and landside parking facilities. Peak storm water runoff rates could be reduced. Storm sewer conveyance systems could be designed with reduced diameter pipes.
- Install landscape to reduce runoff. See discussion of "Water Efficient Landscaping" (SAM Credits 3.3.1 and 3.3.2).
- Install salt-tolerant plants near roadways and parking lots.
- Develop a policy for optimal road salt usage balancing environmental and safety concerns.

Best Available Practice

- Develop collection systems for de-icing runoff. The proposed runway and taxiway pavements would contain first flush systems along the edge of pavements and Central Deicing Facilities for aircraft. The first flush system could consist of slotted edge drains connected to underground holding tanks. Glycol contaminated snowmelt and minor storm water runoff would be captured in the tanks and removed for treatment, disposal or recycling.
- Incorporate technologies, application techniques and/or designs to minimize glycol residual after application of deicing agents.
- Central Deicing Facilities could also be utilized to capture excess glycol from aircraft deicing operations in underground storage tanks.
- Use of "extensive" green roof systems encourages filtration and treatment of rainwater, evaporation of rainfall to the atmosphere and storm water retention.

CASE STUDIES

Central Deicing Facilities
Toronto International Airport - Toronto, Ontario Canada

Toronto Airport reports that in an experimental pilot project, they were able to obtain glycol fluids in a concentration of at least 50 percent from recycled spent fluids having an original concentration of 8 to 10 percent. Toronto Airport reports that glycol water quality expedience events were reduced by 62.5 percent from 2001 to 2002 by the use of central deicing facilities.

http://www.gtaa.com/en/news/torontopearson_today/details/3c6bd8a1-fc70-49c6-a2f0-5d586baa14c2

Fourth Runway at Washington Dulles International Airport
Metropolitan Washington Airports Authority - Washington, D.C.

The Metropolitan Washington Airports Authority is taking an innovative approach to protecting the environment encompassing the new fourth runway. Five new biological treatment units (BTU's) constructed adjacent to the runway will provide a cleansing effect to stormwater runoff in the area.

http://www.metwashairports.com/_/File/_/4th_Runway_btus.pdf

Bio-Retention System to Manage and Cleanse Stormwater
John Burroughs School - Ladue, Missouri

The bio-retention system is primarily a plant- and soil-based filtration facility for parking lot stormwater runoff. Stormwater runoff flows downhill from the driveway and south parking lot into the highest cell, from which it slowly progresses into two lower cells until finally ending up in the pond. Initially, much of the water passes first through an underground vortex filter that spins under the power of the falling water. The cleaned water is then diverted from the vortex filter into the first bio-retention cell while the debris and impurities removed from the water collect at the bottom of the filter. Once a year, the collected sediment from the bottom of the vortex filter is pumped out for disposal. Water then flows into the three cells of the bio-retention basin, each of which has its own underground water holding chamber as well as above-ground plants and soil. Stands of native grasses and wildflowers in each cell help prevent evapotranspiration by shading the water, enhance soil composition, encourage biological activity, and promote the removal of pollutants before stormwater enters the pond. Another important benefit of the system is the prevention of rapid filling and flushing of the pond.

http://www.sustainablesites.org/cases/show.php?id=19

2.0 SUSTAINABLE SITES

2.6.1 Landscape & Exterior Design to Reduce Heat Islands, Non-Roof

1 Point

INTENT

Reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitat.

REQUIREMENTS

OPTION 1

Use any combination of the following strategies for 50% of the site hardscape (including roads, sidewalks, courtyards and parking lots):

- Provide shade from existing tree canopy or within five years of landscape installation; landscaping (trees) must be in place at the time of certification application. Installation should be consistent with OMP Master Specifications, Section 02905, Sustainable Airport Landscaping, Volume IIIA, Rev. 6, Issued 08/08/08 (or current). For any proposed plant species not listed, consult an FAA certified airport biologist to ensure the plants will not attract wildlife.
- Provide shade from structures fully covered by solar photovoltaic panels.
- Provide shade from architectural devices or structures that have a solar reflectance index (SRI2) of at least 29. Implement a maintenance program that ensures these surfaces are cleaned at least every two years to maintain good reflectance.
- Have paving materials with an SRI of at least 29 and implement a maintenance program that ensures these surfaces are cleaned at least every two years to maintain good reflectance.
- Have an open-grid pavement system (at least 50% pervious).

OR

OPTION 2

Place a minimum of 50% of parking spaces under cover (defined as under ground, under deck, under roof, or under a building). Any roof used to shade or cover parking must have an SRI of at least 29.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Employ strategies, materials and landscaping techniques that reduce heat absorption of exterior materials. Use shade (calculated on June 21, noon solar time) from native or adapted trees and large shrubs, vegetated trellises or other exterior structures supporting vegetation (consistent with OMP Master Specifications, Section 02905, Sustainable Airport Landscaping, Volume IIIA, Rev. 6, Issued 08/08/08 (or current) – and for any proposed plant species not listed, consult an FAA certified airport biologist to ensure the plants will not attract wildlife.) Consider the use of new coatings and integral colorants for asphalt to achieve light-colored surfaces instead of blacktop. Position photovoltaic cells to shade impervious surfaces.

Standard Practice

Unless the reflectance is determined directly through in-situ testing, the following default SRI values are to be used:

Material	SRI
New Conventional "gray" concrete	35
Old (weathered) " gray" concrete	19
New "white" concrete	86
Old (weathered) "white" concrete	45
New Asphalt	0
Old asphalt	6

Recommended Practice

Maximize light colored/high albedo pavement, such as portland cement concrete, for roadways, parking lots, sidewalks and plaza areas. Reflectance must be a minimum of 0.3. ['White' portland cement – 0.7 to 0.8, typical portland cement – 0.35 to 0.5, typical asphalt pavement – 0.05 (new) to 0.15 (over 5 years)].

Best Available Practice

- For Landside projects only, install trees consistent with OMP Master Specifications, Section 02905, Sustainable Airport Landscaping, Volume IIIA, Rev. 6, Issued 08/08/08 (or current) – and for any proposed plant species not listed, consult an FAA certified airport biologist to ensure the plants will not attract wildlife.
- A creative combination of the above strategies to reach this goal is encouraged. For example, a task/project can provide 5% shading of dark colored impervious surfaces and 25% light colored/high albedo pavement to achieve this goal.
- Evaluate structured parking in lieu of asphalt paved surface lots. This provides additional 'green' areas and reduces stormwater runoff from roofs and potentially the size of storm sewer systems.

- Evaluate open grid pavement for surface lots and site pavement.
- Evaluate light-colored permeable pavers and concrete.
- Evaluate "green walls" for building façade.

2.0 SUSTAINABLE SITES

2.6.2 Landscape & Exterior Design to Reduce Heat Islands, Roof

1 Point

INTENT

To reduce heat islands (thermal gradient differences between developed and undeveloped areas) to minimize impact on microclimate and human and wildlife habitat.

REQUIREMENTS

OPTION 1

Use roofing materials having a Solar Reflectance Index (SRI) equal to or greater than the values in the table below for a minimum of 75% of the roof surface. If more than 75% of the roof area is covered with the SRI material, the SRI value may be lower than the required value if the resulting area-weighted equivalent SRI performance is at least as high as having the required value on 75% of the area.

OR

OPTION 2

Install a vegetated roof for at least 50% of the roof area.

OR

OPTION 3

Install high albedo and vegetated roof surfaces that, in combination, meet the following criteria:
(Area of SRI Roof / 0.75) + (Area of vegetated roof / 0.5) >= Total Roof Area

Roof Type	Slope	SRI
Low-Sloped Roof	≤ 2:12	78
Steep-Sloped Roof	> 2:12	29

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Consider installing high-albedo and vegetated roofs to reduce heat absorption. SRI is calculated according to ASTM E 1980. Reflectance is measured according to ASTM E 903, ASTM E 1918, or ASTM C 1549. Emittance is measured according to ASTM E 408 or ASTM C 1371. Product information is available from the Cool Roof Rating Council website, at www.coolroofs.org. Also, visit the ENERGY STAR website, www.energystar.gov, to research compliant products.

Standard Practice

White roofs are currently the standard for new construction on airport property. These are acceptable; however, SRI decreases with the age of the roof. Unless a cleaning program is in place, the benefits of white roofs diminish over time. For this reason, along with the benefits of stormwater management, the construction of green roofs is encouraged.

Recommended Practice

Evaluate and utilize an ENERGY STAR compliant roofing system, such as aluminum coating and light-colored coatings. Thermoplastic and white PVC roofing systems meet these standards.

Best Available Practice

Install a "green" vegetated roof on all or portions of new and existing buildings.

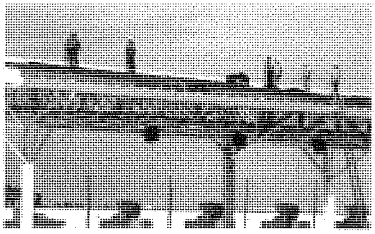
CASE STUDY

Green Roofs
Chicago O'Hare International Airport - Chicago, Illinois

The O'Hare Modernization Program (OMP) has made vegetated roofs a priority for any large roof construction at ORD. Although reducing the heat island effect is the primary goal of this credit, the airport, with its large expanses of impervious pavement also looks to this technology for its stormwater management aspects. Where vegetated roofs are not used or if there is only partial coverage by a vegetated roof, a high reflectance roofing material in accordance with the requirements of this credit is encouraged to be used where applicable.

As of 2008, there were a total of four vegetated roof projects totaling approximately 33,000 square feet. The projects include the following:

- South Airfield Lighting Control Vault – 14,200 sq. ft
- North Air Traffic Control Tower Base Building – 8,822 sq. ft
- Guard Post 1 Canopy – 6,500 sq. ft
- Aircraft Rescue and Firefighting Facility #3 – 3,440 sq. ft



Green Roof installation atop Guard Post 1 at O'Hare

As of 2009, there are an additional four projects proposed that will add an additional 350,000 sq. ft of vegetated roof space at ORD including two cargo buildings that will rank in the top 25 of the largest roofs in the world[1]. These are:

- FedEx Sort Building (proposed completion 2011) – 174,442 sq. ft
- UAL Cargo (proposed completion 2012) – 162,763 sq. ft
- FedEx World Service Center (proposed completion 2010) – 10,024 sq. ft
- FedEx Vehicle Maintenance Building (proposed completion 2009) – 3,170 sq. ft

It should be noted that the areas above only include the vegetated roof area. In all cases a highly reflective roof (high SRI value) makes up the balance of the roof area. For example, the UAL Cargo Building has a total roof area of 350,000 square feet of which 47% will be vegetated and the remaining will be a high SRI roof. In comparison, 100% of the Guard Post 1 Canopy is covered by a vegetated roof system.

In all cases, existing and proposed (thus far) vegetated roof systems are extensive, that is low profile (< 6 inches), and plants consist entirely of varieties of *Sedum sp.* to minimize wildlife attraction. Refer to OMP Standard Specification 02905 – Sustainable Airport Landscaping – for additional details on acceptable plant species.

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[1] "The Greenroof Projects Database", www.greenroofs.com

2.0 SUSTAINABLE SITES

2.7 Light Pollution Reduction

1 Point

INTENT

Minimize light trespass from the building and site, reduce sky-glow to increase night sky access, improve nighttime visibility through glare reduction, and reduce development impact on nocturnal environments.

REQUIREMENTS

FOR INTERIOR LIGHTING

The angle of maximum candela from each interior luminaire as located in the building shall intersect opaque building interior surfaces and not exit out through the windows.

OR

All non-emergency interior lighting shall be automatically controlled to turn off during non-business hours. Provide manual override capability for after hours use.

AND

FOR EXTERIOR LIGHTING

Only light areas as required to meet FAA Regulation, Airline and Airport operational requirements, security, safety and comfort. Lighting Power Densities shall not exceed ASHRAE/IESNA Standard 90.1-2007 Addendum "I" for the classified zone.

All projects shall be classified under one of the following zones, as defined in IESNA RP-33, and shall follow all of the requirements for that specific zone:

LZ1 — Dark (Developed areas within national parks, state parks forest land and rural areas)
Design exterior lighting so that all site and building-mounted luminaires produce a maximum initial illuminance value no greater than 0.01 horizontal and vertical footcandles at the site boundary and beyond. Document that 0% of the total initial designed fixture lumens are emitted at an angle of 90 degrees or higher from nadir (straight down).

LZ2 — Low (Areas predominantly consisting of; Residential zoning, Neighborhood business districts, Light industrial with limited nighttime use, Residential mixed use areas)
Design exterior lighting so that all site and building mounted luminaires produce a maximum initial illuminance value no greater than 0.10 horizontal and vertical footcandles at the site boundary and no greater than 0.01 horizontal footcandles 10 feet beyond the site boundary. Document that no more than 2% of the total initial designed fixture lumens are emitted at an angle of 90 degrees or higher from nadir (straight down). For site boundaries that abut public rights-of-way, light trespass requirements may be met relative to the curb line instead of the site boundary.

LZ3 — Medium (All other areas not included in LZ1, LZ2 or LZ4 such as Commercial/Industrial, High-Density Residential)
Design exterior lighting so that all site and building mounted luminaires produce a maximum initial illuminance value no greater than 0.20 horizontal and vertical footcandles at the site boundary and no greater than 0.01 horizontal footcandles 15 feet beyond the site. Document that no more than 5% of the total initial designed fixture lumens are emitted at an angle of 90 degrees or higher from nadir (straight down). For site boundaries that abut public rights-of-way, light trespass requirements may be met relative to the curb line instead of the site boundary.

LZ4 — High (High activity commercial districts in major metropolitan areas. To be LZ4 the area must be so designated by the local jurisdiction)
Design exterior lighting so that all site and building mounted luminaires produce a maximum initial illuminance value no greater than 0.60 horizontal and vertical footcandles at the site boundary and no greater than 0.01 horizontal footcandles 15 feet beyond the site. Document that no more than 10% of the total initial designed site lumens are emitted at an angle of 90 degrees or higher from nadir (straight down). For LZ2, LZ3 & LZ4 - For site boundaries that abut public rights-of-way, light trespass requirements may be met relative to the curb line instead of the site boundary. For ALL Zones - Illuminance generated from a single luminaire placed at the intersection of a private vehicular driveway and public roadway accessing the site, is allowed to use the centerline of the public roadway as the site boundary for 2 times the driveway width.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Adopt site lighting criteria to maintain safe light levels while avoiding off-site lighting and night sky pollution. Minimize site lighting where possible and model the site lighting using a computer model. Technologies to reduce light pollution include full cutoff luminaires, low-reflectance surfaces and low-angle spotlights.

Standard Practice

Use standard cutoffs on exterior lighting, wherever possible and appropriate.

Recommended Practice

- Adopt site lighting criteria to maintain safe light levels while avoiding off-site lighting and night sky pollution.
- Minimize site lighting where possible
- The maximum candela value of all interior lighting shall fall within the building (not out through windows) and the maximum candela value of all exterior lighting shall fall within the property.
- Consider a parking lot design which allows for a reduction of the available parking areas and the associated exterior lighting during non-use or low use hours.
- Evaluate smart-lighting control systems and LED light technologies.

Best Available Practice

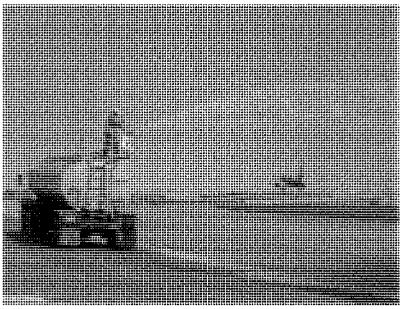
- Model the site lighting using a computer model.
- Consider full cutoff luminaries, low-reflectance, non-specular surfaces and low-angle spotlights for roadway and building lighting.

CASE STUDY

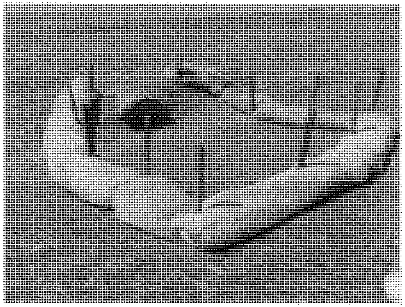
Total Lighting Control System
T.F. Green International Airport - Providence, Rhode Island

The newly renovated terminal at T.F. Green International Airport implemented an energy-efficient and automated Total Lighting Control (TLC) system by General Electric. The system features programmable networked technology, controlling the internal and external lighting at the facility, including lights in the concourse areas, departure areas, baggage claims and outdoor parking areas.

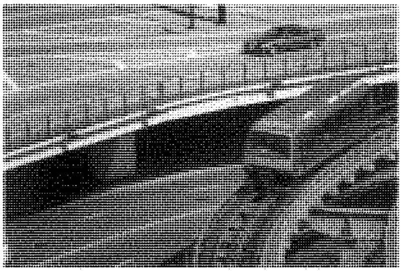
http://www.geindustrial.com/publibrary/checkout/Case%20Studies%7Ctfgreen%7CPDF



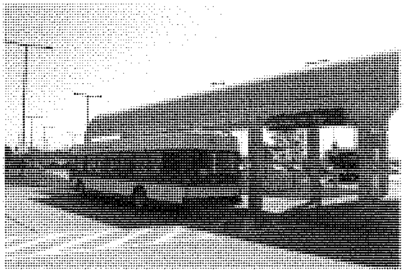
Spraying site to minimize fugitive dust



Inlet protection



Automated People Mover System at O'Hare



Mass transit drop-off point at O'Hare

3.0 Water Efficiency

3.1 Prerequisite 1 – Water Use Reduction, 20% Reduction

Required

INTENT

Increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

REQUIREMENTS

Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation). The baseline shall meet the requirements of the Energy Policy Act (EPAct) of 1992 and subsequent rulings by the Department of Energy, requirements of the Energy Policy Act of 2005, and the plumbing code requirements as stated in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code as to fixture performance. Calculations are based on estimated occupant usage and shall include only the following fixtures and fixture fittings (as applicable to the building): water closets, urinals, lavatory faucets, showers, kitchen sink faucets and pre-rinse spray valves.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

WaterSense™-certified fixtures and fixture fittings should be used where available. Use high-efficiency fixtures (water closets and urinals) and dry fixtures such as composting toilet systems to reduce the potable water demand. Consider the use of alternate on-site sources of water, such as rainwater, stormwater, or air conditioner condensate, and graywater for non-potable applications such as toilet and urinal flushing, as approved by the manufacturer, and for custodial uses.

Special consideration should be used to distinguish applicability of these technologies in high-volume passenger terminal areas versus office facilities, especially with respect to maintenance.

Standard Practice

Chicago Building Code (CBC) meets the Energy Policy Act of 1992 (EPAct 1992).

Recommended Practice

- Must exceed CBC (EPAct 1992) by 20% to meet prerequisite
- Use high-efficiency fixtures and valves, automatic flush sensors, aerators on faucets and dual-flush toilets.
- Use local generation of domestic hot water, as much as possible, to eliminate long piping runs associated with recirculation piping. Unless connecting to an

existing hot water recirculating system.

- Domestic hot water for general plumbing fixtures should be designed for a temperature of 140 deg. F. maximum, but not less than 120 deg. F.

Best Available Practice

- Install dry fixtures such as composting toilets and waterless urinals to reduce wastewater volumes.
- Use instantaneous hot water heating systems (i.e., tankless, on-demand hot water heating)
- Use zoned or sub-metering to measure and audit water consumption rates at points of use.
- Use reclaimed water for cooling tower makeup.
- Evaluate pulsed-power electromagnetic water treatment, ultraviolet treatment, or ozone treatment for cooling tower water.
- Establish a water supply system that supports vehicle maintenance without the use of potable water by using recycled water or diverted stormwater for vehicle and aircraft washing.

CASE STUDIES

See SAM Credit 3.2 - Water Use Reduction, 30-40%.

3.0 Water Efficiency

3.2 Water Use Reduction, 30% - 40% reduction

2 to 4 Points

INTENT

Further increase water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

REQUIREMENTS

Employ strategies that in aggregate use less water than the water use baseline calculated for the building (not including irrigation). The minimum water savings percentage for each point threshold is as follows:

SAM Credit	Water Reduction	Points
3.2.1	30%	2
3.2.2	35%	3
3.2.3	40%	4

Calculate the baseline according to the commercial and/or residential baselines outlined below[1]. Calculations are based on estimated occupant usage and must include only the following fixtures and fixture fittings (as applicable to the project scope): water closets, urinals, lavatory faucets, showers, kitchen sink faucets and pre-rinse spray valves.

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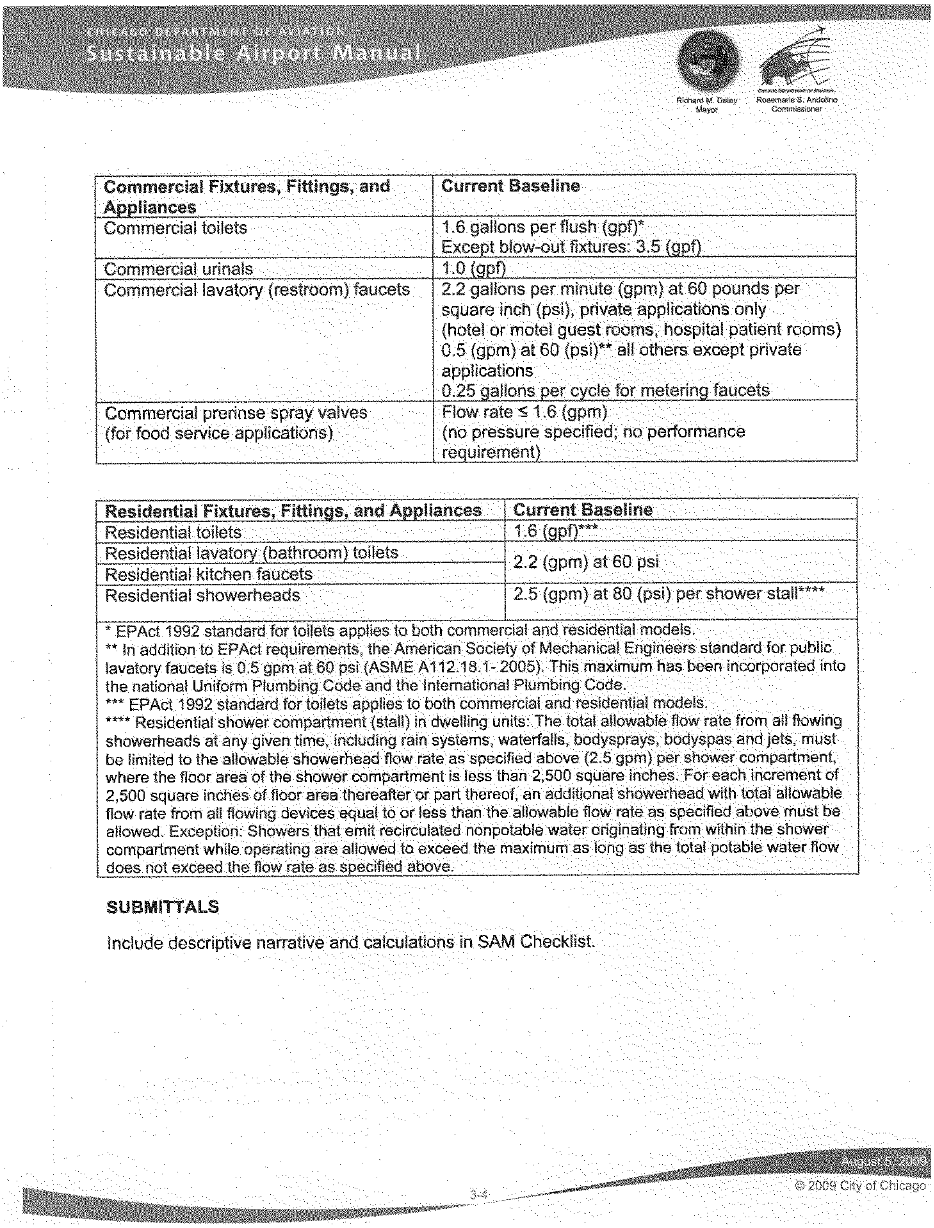
[1] Tables adapted from information developed and summarized by the U.S. Environmental Protection Agency (EPA) Office of Water based on requirements of the Energy Policy Act (EPAct) of 1992 and subsequent rulings by the Department of Energy, requirements of the EPAct of 2005, and the plumbing code requirements as stated in the 2006 editions of the Uniform Plumbing Code or International Plumbing Code pertaining to fixture performance.



Commercial Fixtures, Fittings, and Appliances	Current Baseline
Commercial toilets	1.6 gallons per flush (gpf)* Except blow-out fixtures: 3.5 (gpf)
Commercial urinals	1.0 (gpf)
Commercial lavatory (restroom) faucets	2.2 gallons per minute (gpm) at 60 pounds per square inch (psi), private applications only (hotel or motel guest rooms, hospital patient rooms) 0.5 (gpm) at 60 (psi)** all others except private applications 0.25 gallons per cycle for metering faucets
Commercial prerinse spray valves (for food service applications)	Flow rate ≤ 1.6 (gpm) (no pressure specified; no performance requirement)

Residential Fixtures, Fittings, and Appliances	Current Baseline
Residential toilets	1.6 (gpf)***
Residential lavatory (bathroom) toilets	2.2 (gpm) at 60 psi
Residential kitchen faucets	
Residential showerheads	2.5 (gpm) at 80 (psi) per shower stall****

* EPAct 1992 standard for toilets applies to both commercial and residential models.

** In addition to EPAct requirements, the American Society of Mechanical Engineers standard for public lavatory faucets is 0.5 gpm at 60 psi (ASME A112.18.1- 2005). This maximum has been incorporated into the national Uniform Plumbing Code and the International Plumbing Code.

*** EPAct 1992 standard for toilets applies to both commercial and residential models.

**** Residential shower compartment (stall) in dwelling units: The total allowable flow rate from all flowing showerheads at any given time, including rain systems, waterfalls, bodysprays, bodyspas and jets, must be limited to the allowable showerhead flow rate as specified above (2.5 gpm) per shower compartment, where the floor area of the shower compartment is less than 2,500 square inches. For each increment of 2,500 square inches of floor area thereafter or part thereof, an additional showerhead with total allowable flow rate from all flowing devices equal to or less than the allowable flow rate as specified above must be allowed. Exception: Showers that emit recirculated nonpotable water originating from within the shower compartment while operating are allowed to exceed the maximum as long as the total potable water flow does not exceed the flow rate as specified above.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

WaterSense™-certified fixtures and fixture fittings should be used where available. Use high-efficiency fixtures (water dispensers, water closets and urinals) and dry fixtures such as composting toilet systems to reduce the potable water demand. Consider the use of alternate on-site sources of water, such as rainwater, stormwater, or air conditioner condensate, and graywater for non-potable applications such as toilet and urinal flushing, as approved by the manufacturer, and custodial uses.

Standard Practice

None.

Recommended Practice

- Use high-efficiency fixtures and valves, such as automatic sensors, aerators on lavatories and dual-flush toilets.

Best Available Practice

- Dry fixtures such as composting toilets and waterless urinals to reduce wastewater volumes.
- Use reclaimed water for cooling tower makeup.
- Evaluate pulsed-power electromagnetic water treatment, ultraviolet treatment, or ozone treatment for cooling tower water.
- Establish a water supply system that supports vehicle maintenance without the use of potable water by using recycled water or diverted stormwater for vehicle and aircraft washing.

CASE STUDIES

Recommendations for Maximizing Environmental Performance: Potable Water
Fort Lauderdale Hollywood International Airport - Fort Lauderdale, Florida

Fort Lauderdale-Hollywood International Airport (FLL) was billed for over 65 million gallons of water from October 2005 through September 2006. Significant opportunities exist for further reducing the consumption of potable water and the burden imposed on sewer infrastructure and treatment. FLL currently uses low-flow toilets, sinks, and faucets in its restrooms. New technology, however, now exists that would enable FLL to further improve efficiency. According to the analysis conducted, the installation of lower-flow toilets, sinks, and urinals would cost about $234,000 and further reduce potable water consumption by 43 million gallons annually. This reduced water use would save the airport $281,000 annually and provide a payback of investment in ten months. FLL works cooperatively with tenants to reduce consumption by applying best management practices to sub-metered tenants and assessing the viability of overseeing water use through a centralized control monitoring system. An additional 142 million gallons of water was billed to 141 sub-metered airport related users during that same period of time. It appears that the sub-metered users are a combination of food service establishments (there are 27 such tenants in the airport as of October 2006), rental car companies, airlines, BCAD, Federal Aviation Administration, Broward County Animal Control, Fort Lauderdale Small Boat Club and others.

http://www.broward.org/airport/pdfs/executivesummary.pdf

Waterless Urinals
Los Angeles Community College District - Los Angeles, California

The Los Angeles Community College District's (LACCD) has installed 1,224 cartridge-type waterless urinals at all nine of its community colleges. The waterless urinals are designed to benefit the District in three ways:

1. Each urinal will save approximately 40,000 gallons of water per year. Combined, that's a savings of almost 50 million gallons of water a year (enough water to fill 259 Olympic-sized pools);
2. Less water consumption will result in a decrease in water bills;
3. Waterless urinals will eliminate the need to send wastewater to treatment plants, therefore reducing the sewage costs District-wide.

Installation of the new waterless urinals is currently underway, with expected completion in February 2010.

http://www.usgbc-la.org/uploads/files/newsletter/USGBC-LA%20March%202008%20Newsletter.pdf

3.0 Water Efficiency

3.3.1 Water Efficient Landscaping, Reduce by 50%

2 Points

INTENT

Limit or eliminate the use of potable water, or other natural surface or subsurface water resources available on or near the project site, for landscape irrigation.

REQUIREMENTS

Reduce potable water consumption for irrigation by 50% from a calculated mid-summer baseline case.

Reductions shall be attributed to any combination of the following items:

- Plant species, density and microclimate factor
- Irrigation efficiency
- Use of captured rainwater
- Use of recycled wastewater
- Use of water treated and conveyed by a public agency specifically for non-potable uses

If the Percent Reduction of Potable Water is equal to or greater than 50%, credit for LEED WE 2.2.1 is earned. If the Percent Reduction of Potable Water is 100% AND the Percent Reduction of Total Water is equal to or greater than 50%, credit for LEED WE 2.2.2 is earned in addition to credit for LEED WE 2.2.1.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Perform a soil/climate analysis to determine appropriate plant material and design the landscape with native or adapted plants to reduce or eliminate irrigation requirements. Where irrigation is required, use high-efficiency equipment and/or climate-based controllers.

Note that these landscaping strategies provide benefits for the following:

- Stormwater Quantity and Quality (reference SAM Credits 2.5.1 and 2.5.2)
- Heat Island Effect, Roof and Non-Roof (reference SAM Credits 2.6.1 and 2.6.2)
- Minimum and Optimize Energy Performance (reference SAM Credits 4.2 and 4.4)

Groundwater seepage that is pumped away from the immediate vicinity of buildings slabs and foundations can be used for landscape irrigation and meet the intent of this credit. However, it must be demonstrated that doing so does not affect site stormwater management systems.

Standard Practice

- Irrigation systems are not typically installed airside and the lower maintenance tall fescue is used for all projects per the following OMP Master Specifications:
    - T-901, Seeding, Volume IIIC, Rev. 4, Issued 02/05/07 (or current)
    - 02931, Seeding and Hydro-mulching, Volume IIIC, Rev 7, Issued 08/08/08 (or current)
- Specification 02905, Sustainable Airport Landscaping, Volume IIIA, Rev. 6, Issued 08/08/08 (or current), is the airport landscaping specification that deals with other plants and landscaping requirements.

Recommended Practice

- Do not install an irrigation system.
- Do not install plants that will require irrigation.
- Utilize vegetation which may be acceptable for site use (native and/or low-maintenance), with special consideration for vegetated green roofs. Utilize vegetation to reduce or eliminate irrigation requirements for landside areas.
- Minimize the use of high maintenance lawns and annual plants.
- Establish areas of high and low landscape maintenance areas. Group plants with similar water-use needs by determining which areas of the site should receive a higher level of care than others and, during drought periods, more irrigation. Coordinate these areas with the irrigation plan. Higher maintenance areas should be located around the major building entries and high traffic areas. Lower maintenance areas should be located on low traffic areas, buffer zones and service areas.

Best Available Practice

- Perform a soil and climate analysis to determine the appropriate landscape strategy.
- Evaluate stormwater and/or graywater cisterns for capturing rainwater from all new roofs for irrigation.
- If irrigation system must be installed, provide for soil moisture monitoring to reduce reliance on manual control and timed devices, as well as for detecting leaks.

CASE STUDY

Sustainable Airport Landscaping Design
Chicago Department of Aviation - Chicago, Illinois

For the Chicago Department of Aviation, the key focus of the landscaping design is that it is aesthetically pleasing and at the same time, low maintenance, ecologically and financially sustainable yet does not compromise airport security and aircraft safety, as defined below:

Minimize Wildlife Hazards – The landscaping criteria are intended to minimize wildlife hazards with particular emphasis on large birds (e.g. waterfowl, gulls, raptors), small mammals that may attract raptors, and small birds that congregate into large flocks (e.g. blackbirds, starlings). In general, landscape that provides food or shelter to these types of birds and small mammals is to be avoided.

Increase Landscape Sustainability – In concert with wildlife management, Airport landscaping must be low-maintenance and environmentally sound. Plants that have little or no maintenance requirements are to be used. Plants that minimize or eliminate fertilization, mowing, pest control, and irrigation are to be used whenever possible. Wherever possible, plants native to the Midwest region of the United States are to be used.

Safety and Security – All Airport safety and security protocols related to the placement of landscape features are adhered to in all cases. This may include sight lines for security-sensitive areas (i.e. guard posts) and the line-of-sight for the air traffic control towers and runway approaches.

Example:

Turf grasses – Low maintenance, drought resistant turf grasses are to be used in place of traditional lawn/turf grass (i.e. Kentucky bluegrass) whenever possible. The list of acceptable turf grasses was based on the following criteria:

- Low or Slow Growing – Turf grass species are to grow at a rate that does not require excessive mowing, i.e. more than twice a month during the growing season or no more than six times a year or the mature height of the species does not exceed the recommended mow height.
- Drought Tolerant – Turf grass species are to require no additional irrigation except during establishment. The species must be suitable to Chicago's climate (USDA Zone 5) and precipitation ranges. Kentucky Bluegrass (*Poa pratensis*) varieties are not acceptable.
- Non-Wildlife Attracting – Turf grass species are to be unattractive to wildlife either due to low palatability of the vegetation (e.g. endophyte toxicity) or through low seed production although the latter can be mitigated through mowing. Clover (*Trifolium sp.*) varieties are not acceptable.

Landside Landscape Uses – Areas where aesthetics will play a larger role such as the terminals, roadway approaches to the airport, landside normally-occupied buildings/facilities, and other areas of high visibility to the public must be designed using low-maintenance plants where possible. Examples of these uses include parking lot islands, roadway medians and/or roadsides, planting beds, large planter containers, building outdoor courtyards or common areas. Some allowances may be made for the use of annuals where appropriate (e.g. hanging planters, small containers, etc.). Specification 02905, Sustainable Airport Landscaping, Volume IIIA, Rev. 6, Issued 08/08/08 (or current), includes a listing of approved plants and trees.

Airside Landscape Uses

Airfield Turf Areas – Areas of the airfield that are within 600' of any active runway or taxiway are to be planted only with turf grasses. Mowing heights and frequencies are to be strictly enforced within these areas.

Trees – No trees of any kind are to be used anywhere within the AOA (Airside).

Shrubs – The basic landscaping criteria apply for selection of acceptable shrub species. In addition, mass plantings of shrubs or hedge rows are not allowed. Shrubs may be used only as ornamental specimen plants at any normally occupied airside building site or parking lot. Shrubs are not to be placed in open areas of the airfield. Shrubs must be maintained at a height no greater than 6'. Shrubs that mature at a height less than or equal to 6' are preferable to reduce maintenance.

Green Roofs – Green roof species will typically include *Sedum sp.* (Stonecrop).

Ornamental Airside Landscaping – Areas where aesthetics are a higher priority, which include terminals, normally-occupied airside buildings/facilities, and the like, should include plants as indicated based on the criteria above, with some exceptions. Examples of these uses include parking lot islands, roadway medians and/or roadsides, planting beds, large planter containers, building outdoor courtyards or common areas.

3.0 Water Efficiency

3.3.2 Water Efficient Landscaping, No Potable Water Use or No Irrigation

2 Points (in addition to credit earned towards SAM Credit 3.3.1)

INTENT

Eliminate the use of potable water, or other natural surface or subsurface water resources available on or near the project site, for landscape irrigation.

REQUIREMENTS

Achieve credit towards SAM Credit 3.3.1 and:

Use only captured rainwater, recycled wastewater, recycled graywater, or water treated and conveyed by a public agency specifically for non-potable uses for irrigation.

OR

Install landscaping that does not require permanent irrigation systems. Temporary irrigation systems used for plant establishment are allowed only if removed within one year of installation.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Perform a soil/climate analysis to determine appropriate landscape types and design the landscape with indigenous plants to reduce or eliminate irrigation requirements. Consider using stormwater, graywater, and/or condensate water for irrigation.

Note that these landscaping strategies provide benefits for the following:

- Stormwater Quantity and Quality (reference SAM Credits 2.5.1 and 2.5.2)
- Heat Island Effect, Roof and Non-Roof (reference SAM Credits 2.6.1 and 2.6.2)
- Minimum and Optimize Energy Performance (reference SAM Credits 4.2 and 4.4)

Standard Practice

- Irrigation systems are not typically installed airside and the lower maintenance tall fescue is used for all projects per the following OMP Master Specifications:
  - T-901, Seeding, Volume IIIC, Rev. 4, Issued 02/05/07 (or current)
  - 02931, Seeding and Hydro-mulching, Volume IIIC, Rev 7, Issued 08/08/08 (or current)
- Specification 02905, Sustainable Airport Landscaping, Volume IIIA, Rev. 6, Issued 08/08/08 (or current), is the airport landscaping specification that deals with other plants and landscaping requirements.

Recommended Practice

- Do not install an irrigation system.
- Do not install plants that will require irrigation.
- Utilize vegetation which may be acceptable for site use (native and/or low-maintenance), with special consideration for vegetated green roofs. Utilize vegetation to reduce or eliminate irrigation requirements for landside areas.

Best Available Practice

- Perform a soil and climate analysis to determine the appropriate landscape strategy.
- Evaluate stormwater and/or graywater cisterns for capturing rainwater from all new roofs for irrigation.

CASE STUDY

Water Conservation and Management Programs
Los Angeles World Airports - Los Angeles, California

Los Angeles World Airport (LAWA) recognizes that water is a precious resource in Southern California and it must be proactive in its water conservation efforts. LAWA has reduced its water consumption in its everyday operations and continues to find ways to re-use water from local treatment sources. As of 2008, Los Angeles International Airport (LAX) used reclaimed water to irrigate 35 percent of its landscaped acres. Each year 40.2 million gallons (123 acre-feet) of water has been conserved through the utilization of reclaimed water. Additionally, the airport's car wash facilities use recycled water and the landscape irrigation systems are computer controlled. The toilets and sinks have also been converted to low flow fixtures in the terminals and buildings.

http://www.lawa.org/welcome_LAWA.aspx?id=1036

3.0 Water Efficiency

3.4 Innovative Wastewater Technologies

2 Points

INTENT

Reduce wastewater generation and potable water demand while increasing the local aquifer recharge.

REQUIREMENTS

OPTION 1

Reduce potable water use for building sewage conveyance by 50% through the use of water-conserving fixtures (water closets, urinals) or non-potable water (captured rainwater, recycled graywater, and on-site or municipally treated wastewater).

OR

OPTION 2

Treat 50% of wastewater on-site to tertiary standards. Treated water must be infiltrated or used on-site.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Specify high-efficiency fixtures and fittings and dry fixtures such as composting toilet systems and non-water using urinals to reduce wastewater volumes. Consider reusing stormwater or graywater for sewage conveyance or on-site mechanical and/or natural wastewater treatment systems. Options for on-site wastewater treatment include packaged biological nutrient removal systems and high-efficiency filtration systems.

Standard Practice

None.

Recommended Practice

- Use high-efficiency fixtures and valves.
- Utilize fixtures such as dual flush toilets and waterless urinals to reduce wastewater volumes.
- Evaluate reusing stormwater for non-potable uses.

Best Available Practice

- Capture graywater from lavatories, showers and institutional dishwashing facilities for sewage conveyance or on-site wastewater treatment systems.

CASE STUDY

Port of Portland Headquarters
Portland International Airport - Portland, Oregon

The headquarters at Portland International Airport is being designed to meet LEED gold standards, and is expected to open in 2010. Some of the cutting-edge technologies being employed include an innovative wastewater treatment and recycling system. The system, Living Machine, cleans wastewater through a series of holding tanks, many of which replicate the ecological processes in natural tidal wetlands. The cells alternatively fill and drain, moving the water through specially treated rocks containing microorganisms and plants. The process is so natural that 10 of the cells will appear to visitors as lush plant gardens. Six will be in the lobby at the first-floor entrance, and four will be just outside an adjoining wall. Based on the experiences at Living Machines installed in over a dozen other buildings around the world, it's unlikely that visitors will ever suspect the cells are treating water from the building's sinks, showers and toilets for reuse in toilets.

http://www.portlandtribune.com/sustainable/print_story.php?story_id=124216043275524500

4.0 ENERGY & ATMOSPHERE

4.1 Prerequisite 1 – Fundamental Building Systems Commissioning

Required

INTENT

For occupied buildings, verify that the project's energy related systems are installed, calibrated and perform according to the owner's project requirements, basis of design, and construction documents.

REQUIREMENTS

1) The following commissioning process activities shall be completed by the commissioning team. Designate an individual as the Commissioning Authority (CxA) to lead, review and oversee the completion of the commissioning process activities.
   a) The CxA shall have documented commissioning authority experience in at least two building projects.
   b) The individual serving as the CxA shall be independent of the project's design and construction management, though they may be employees of the firms providing those services. The CxA may be a qualified employee or consultant of the Owner.
   c) The CxA shall report results, findings and recommendations directly to the Owner.
   d) For projects smaller than 50,000 gross square feet, the CxA may include qualified persons on the design or construction teams who have the required experience.

2) The Owner shall document the Owner's Project Requirements (OPR). The design team shall develop the Basis of Design (BOD). The CxA shall review these documents for clarity and completeness. The Owner and design team shall be responsible for updates to their respective documents.

3) Develop and incorporate commissioning requirements into the construction documents.

4) Develop and implement a commissioning plan.

5) Verify the installation and performance of the systems to be commissioned.

6) Complete a summary commissioning report.

COMMISSIONED SYSTEMS
Commissioning process activities shall be completed for the following energy-related systems, at a minimum:

- Heating, ventilating, air conditioning and refrigeration (HVAC&R) systems (mechanical and passive) and associated controls
- Lighting and daylighting controls
- Domestic hot water systems
- Renewable energy systems (wind, solar etc.)

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Engage a CxA as early as possible in the design process. Determine the owner's project requirements, develop and maintain a commissioning plan for use during design and construction and incorporate commissioning requirements in bid documents. Assemble the commissioning team, and prior to occupancy verify the performance of energy consuming systems. Complete the commissioning reports with recommendations prior to accepting the commissioned systems. Owners are encouraged to seek out qualified individuals to lead the commissioning process. Qualified individuals are identified as those who possess a high level of experience in the following areas:

- Energy systems design, installation and operation
- Commissioning planning and process management
- Hands-on field experience with energy systems performance, interaction, start-up, balancing, testing, troubleshooting, operation, and maintenance procedures
- Energy systems automation control knowledge

Although the commissioning process should start as early in the design process as possible, it is allowable to engage a CxA agent to execute fundamental commissioning after construction has begun.

Standard Practice

Commissioning Agents are typically engaged to conduct fundamental commissioning for buildings.

Recommended Practice

- Review the design intent and the basis of design documentation.
- Incorporate commissioning requirements into the construction documents.
- Develop and utilize a commissioning plan.
- Verify installation, functional performance, training, operations and maintenance documentation.
- Complete a commissioning report.
- Provide the owner with a single manual that contains the information required for re-commissioning systems.
- Engage a commissioning team that does not include individuals directly responsible for project design or construction management to evaluate both building and site systems as part of the commissioning plan.

- Priority Systems - high energy consuming systems
    - Central Building Automation system
    - All HVAC system equipment
    - Lighting controls and sensors
    - Site Lighting
    - Refrigeration systems
    - Vertical Transport
    - Building Envelope
    - Baggage handling systems (included in process loads: to promote energy savings, use the exceptional calculation method described in ANSI/ASHRAE/IESNA 90.1-2007 G2.5)
    - Information Technology Systems - IT (included in process loads: to promote energy savings, use the exceptional calculation method described in ANSI/ASHRAE/IESNA 90.1-2007 G2.5)
- Lower Priority Systems – low energy consuming system.
    - Emergency Power Generators and Automatic Transfer Switching
    - Uninterruptible Power Supply systems
    - Life Safety systems; Fire protection Fire alarm, Egress pressurization
    - Lightning Protection
    - Domestic and Process water pumping and mixing systems
    - Equipment sound control systems
    - Data and Communication systems
    - Paging systems
    - Security systems
    - Irrigation systems
    - Plumbing
    - Illuminated guidance signage
- For Runways, Civil/Stormwater and Roadways/Rail projects this scope should include the following project components.
    - For support and ancillary buildings include all of the applicable systems and assemblies noted above
    - Runway lighting and illuminated signage
    - Runway NAVAIDS
    - Site lighting systems
    - Traffic signals
    - Stations (e.g., pump stations, lift stations, drainage pumps)
    - Heating/Deicing systems
    - Oil/water separators

Best Available Practice

None.

4.0 ENERGY & ATMOSPHERE

4.2 Prerequisite 2 – Minimum Energy Performance

Required

INTENT

Establish the minimum level of energy efficiency for the proposed building and civil infrastructure systems to reduce environmental and economic impacts associated with excessive energy use.

REQUIREMENTS

The requirements for this credit will vary based on the type of project: building versus civil.

Select one of the five compliance path options described below. Options 1, 2, and 3 pertain to buildings; 4 and 5 pertain to civil/infrastructure projects.

OPTION 1 — WHOLE BUILDING ENERGY SIMULATION

Demonstrate a 10% improvement in the proposed building performance rating for new buildings, or a 5% improvement in the proposed building performance rating for major renovations to existing buildings, compared with the baseline building performance rating. Calculate the baseline building performance rating according to the building performance rating method in Appendix G of ANSI/ASHRAE/IESNA Standard 90.1-2007 (with errata but without addenda1) using a computer simulation model for the whole building project.

Appendix G of Standard 90.1-2007 requires that the energy analysis done for the building performance rating method include all energy costs associated with the building project. To achieve points using this credit, the proposed design must meet the following criteria:

- Comply with the mandatory provisions (Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4) in Standard 90.1-2007 (with errata but without addenda1).
- Include all energy costs associated with the building project.
- Compare against a baseline building that complies with Appendix G of Standard 90.1-2007 (with errata but without addenda1). The default process energy cost is 25% of the total energy cost for the baseline building. If the building's process energy cost is less than 25% of the baseline building energy cost, the submittal must include documentation substantiating that process energy inputs are appropriate.

For the purpose of this analysis, process energy is considered to include, but is not limited to, office and general miscellaneous equipment, computers, elevators and escalators, kitchen cooking and refrigeration, laundry washing and drying, lighting exempt from the lighting power allowance (e.g. lighting integral to medical equipment) and other (e.g. waterfall pumps).

Regulated (non-process) energy includes lighting (such as for the interior, parking garage, surface parking, façade, or building grounds, except as noted above), HVAC (such as for space heating, space cooling, fans, pumps, toilet exhaust, parking garage ventilation, kitchen hood exhaust, etc.), and service water heating for domestic or space heating purposes.

Process loads must be identical for both the baseline building performance rating and the proposed building performance rating. However, project teams may follow the exceptional calculation method (ANSI/ASHRAE/IESNA Standard 90.1-2007 G2.5) to document measures that reduce process loads. Documentation of process load energy savings must include a list of the assumptions made for both the base and the proposed design, and theoretical or empirical information supporting these assumptions.

OR

OPTION 2 — PRESCRIPTIVE COMPLIANCE PATH: ASHRAE Advanced Energy Design Guide

Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide appropriate to the project scope, outlined below. Project teams must comply with all applicable criteria as established in the Advanced Energy Design Guide for the climate zone in which the building is located.

PATH 1. ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004

The building must meet the following requirements:

- Less than 20,000 square feet.
- Office occupancy.

PATH 2. ASHRAE Advanced Energy Design Guide for Small Retail Buildings 2006

The building must meet the following requirements:

- Less than 20,000 square feet.
- Retail occupancy.

PATH 3. ASHRAE Advanced Energy Design Guide for Small Warehouses and Self Storage Buildings 2008

The building must meet the following requirements:

- Less than 50,000 square feet.
- Warehouse or self-storage occupancy.

OR

OPTION 3 — PRESCRIPTIVE COMPLIANCE PATH: Advanced Buildings™ Core Performance™ Guide

Comply with the prescriptive measures identified in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute. The building must meet the following requirements:

- Less than 100,000 square feet.
- Comply with LEED 2009 Section 1: Design Process Strategies, and Section 2: Core Performance Requirements.
- Office, school, public assembly, and retail projects less than 100,000 square feet must comply with LEED 2009 Section 1and Section 2 of the Core Performance Guide.
- Other project types less than 100,000 square feet implement the basic requirements of the Core Performance Guide.
- Health care, warehouse and laboratory projects are ineligible for this path.

OR

OPTION 4 — CIVIL/INFRASTRUCTURE PROJECTS

Comply with the following measures based on the type of civil infrastructure project:

Exterior lighting applications (non-aviation related), such as roadways, surface parking lots, and covered parking garages, must meet the minimum illumination requirements of Tables 6-07-1 and 6-07-2 of Section 6-07 of the OMP Design and Construction Standards, Vol. II, Rev. 3 (June 1, 2006).

Pumping systems not directly associated with buildings, which includes but is not limited to storm water conveyance pumps, sanitary pump stations, irrigation systems must be designed so that the operating design point (system curve intersect) shall be 60% to 120% of flow rate at the point of maximum operating efficiency. Pump motors must meet the minimum full-load efficiency requirements in ASHRAE/IESNA Standard 90.1-2007, Table 10.8, for 4-pole, enclosed motors at 1800 rpm.

The minimum standards for all aviation facilities and systems including navigation aids and runway/taxiway lighting shall be in accordance with FAA specifications and standards.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Design the building envelope and systems and any powered civil infrastructure systems to meet baseline requirements. Use a computer simulation model, where applicable, to assess the energy performance and identify the most cost-effective energy efficiency measures. Quantify energy performance as compared to a baseline building or civil project.

If a local code has demonstrated quantitative and textual equivalence following, at a minimum, the U.S. Department of Energy (DOE) standard process for commercial energy code determination, then the results of that analysis may be used to correlate local code performance with ASHRAE 90.1-2007. Details on the DOE process for commercial energy code determination can be found at: www.energycodes.gov/implement/determinations_com.stm.

Standard Practice

The Chicago Energy Conservation Code (CECC 2008) currently requires that buildings meet the 2006 International Energy Conservation Code (IECC) with an alternate compliance path of ASHRAE/IESNA 90.1-2004 standard with some exceptions.

Most exterior lighting, especially those used for roadway lighting, include the use of high pressure sodium or metal halide lamps with power ranging from 250W to 400W although pedestrian and alley applications may include lamps as low as 50W to 150 W. Induction lighting is used at the ramp areas and the South Cargo Tunnel.

Pre-Conditioned Air (PCA), 400 Hertz power, hydrant fueling and energy-efficient mobile loading bridges should be included with any new gates or gate retrofits.

Recommended Practice

Design buildings using the more current ASHRAE/IESNA 90.1-2007 standard.

Best Available Practice

None.

SOURCES

Illinois Coalition for Responsible Outdoor Lighting. "Chicago: A Study in Outdoor Lighting Practices and Costs", 2008. www.illinoislighting.org

American National Standards Institute/Hydraulic Institute (ANSI/HI), "Pump Systems Matter", March 2005. www.pumps.org

OMP Design and Construction Standards, Vol. II, Rev. 3 (June 1, 2006), §6-07 Lighting

4.0 ENERGY & ATMOSPHERE

4.3 Prerequisite 3 – Fundamental Refrigerant Management

Required

INTENT

Reduce stratospheric ozone depletion.

REQUIREMENTS

Zero use of CFC-based refrigerants in new base building HVAC&R systems. When reusing existing base building HVAC equipment, complete a comprehensive CFC phase-out conversion prior to project completion. Phase-out plans extending beyond the project completion date will be considered on their merits.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

When reusing existing HVAC systems, conduct an inventory to identify equipment that uses CFC refrigerants and provide a replacement schedule for these refrigerants. For new buildings, specify new HVAC equipment in the base building that uses no CFC refrigerants.

Standard Practice

Only HCFC and HFC refrigerants have been used for CDA projects where refrigerants were required (typically R-410a, which is an HFC).

Recommended Practice

None.

Best Available Practice

Although HCFCs and HFCs have ozone depletion potentials (ODP) that are nearly zero, consideration should also be given to their global warming potentials (GWP) (see SAM Credit 4.7). Alternative refrigerants that minimize ODP and GWP compared to HCFCs and HFCs include natural refrigerants such as carbon dioxide, ammonia, and propane. These compounds have an ODP of zero and GWPs which are three orders of magnitude less than most HCFCs and HFCs.

CASE STUDY

Central Utilities System
Toronto Pearson International Airport - Toronto, Ontario Canada

Sustainable principles were implemented in an effort to modernize Toronto Pearson International Airport and increase passenger capacity. A new central utilities plant replaced older equipment with a new HVAC system and a state-of-the-art deicing facility. The new system is supplied with chillers that use non-ozone depleting, chlorine free HFC-134a refrigerant. These chillers were customized to add extra temperature sensing capabilities to allow for closer monitoring of the chiller's motor temperatures, while enhancing equipment safety though an effective preventative maintenance program.

http://www.xpedio.carrier.com/idc/groups/public/documents/marketing/casestudy19.pdf

4.0 ENERGY & ATMOSPHERE

4.4 Optimize Energy Performance

1 to 19 Points

INTENT

Achieve increasing levels of energy performance beyond the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

REQUIREMENTS

The requirements for this credit will vary based on the type of project: building versus civil.

For Occupied and Unoccupied Building projects, the requirements will follow the compliance path options as identified in LEED. There are three compliance options, Options 1 to 3, that apply to buildings as described below. Civil projects will adhere to a compliance path, Option 4, that is similar to Option 1 except that the maximum achievable points will be 6, based on the threshold limits in the table below, or the prescriptive compliance path in Option 5. It is assumed that for any project type or compliance option SAM Credit 4.2 has been met.

OPTION 1 – WHOLE BUILDING ENERGY SIMULATION (1 to 19 points)

Demonstrate a percentage improvement in the proposed building performance rating compared with the baseline building performance rating. Calculate the baseline building performance according to Appendix G of ANSI/ASHRAE/IESNA Standard 90.1-2007 (with errata but without addenda) using a computer simulation model for the whole building project. The minimum energy cost savings percentage for each point threshold is as follows:

Example: An energy simulation indicated that the proposed energy savings for the new air traffic control tower (new building) was 17% over the ASHRAE/IESNA 90.1-2007 standard. The project would then achieve 3 points under this credit.

The minimum energy cost savings percentage for each point threshold by type of project is as follows:

SAM Credit	% Energy Reduction Over Baseline*			Points
	New Buildings	Existing Buildings	Civil**	
4.4.1	12%	8%	8%	1
4.4.2	14%	10%	16%	2
4.4.3	16%	12%	24%	3
4.4.4	18%	14%	32%	4
4.4.5	20%	16%	40%	5
4.4.6	22%	18%	48%	6
4.4.7	24%	20%	-	7
4.4.8	26%	22%	-	8
4.4.9	28%	24%	-	9
4.4.10	30%	26%	-	10
4.4.11	32%	28%	-	11
4.4.12	34%	30%	-	12
4.4.13	36%	32%	-	13
4.4.14	38%	34%	-	14
4.4.15	40%	36%	-	15
4.4.16	42%	38%	-	16
4.4.17	44%	40%	-	17
4.4.18	46%	42%	-	18
4.4.19	48%	44%	-	19

- Beyond baseline calculated in SAM Credit 4.2

** Maximum available points for civil projects are 6. The rationale for this is that according to "2003 Commercial Buildings Energy Consumption Survey" by the Energy Information Administration approximately 30% of overall energy use is due to exterior sources, primarily exterior lighting. Therefore, the SAM makes only 6 of the 19 points available to non-building, i.e. civil projects.

Appendix G of ASHRAE Standard 90.1-2007 requires that the energy analysis done for the Building Performance Rating Method include ALL of the energy costs within and associated with the building project. To achieve points using this credit, the proposed design must meet the following criteria:

- Comply with the mandatory provisions in ASHRAE Standard 90.1-2007, Sections 5.4, 6.4, 7.4, 8.4, 9.4 and 10.4 (without amendments);

- Include all the energy costs within and associated with the building project; and

- Compare against a baseline building that complies with Appendix G to ASHRAE Standard 90.1-2007 (without amendments). The default process energy cost is 25% of the total energy cost for the baseline building. For buildings where the process energy cost is less than 25% of the baseline building energy cost, the submittal must include supporting documentation substantiating that process energy inputs are appropriate.

For the purpose of this analysis, process energy is considered to include, but is not limited to, office and general miscellaneous equipment, computers, elevators and escalators, kitchen cooking and refrigeration, laundry washing and drying, lighting exempt from the lighting power allowance (e.g. lighting integral to security operations) and other (e.g. waterfall pumps).

Regulated (non-process) energy includes lighting (such as for the interior, parking garage, surface parking, façade, or building grounds, except as noted above), HVAC (such as for space heating, space cooling, fans, pumps, toilet exhaust, parking garage ventilation, kitchen hood exhaust, etc.), and service water heating for domestic or space heating purposes.

For this credit, process loads shall be identical for both the baseline building performance rating and for the proposed building performance rating. However, project teams may follow the Exceptional Calculation Method (ASHRAE 90.1-2007 G2.5) to document measures that reduce process loads. Documentation of process load energy savings shall include a list of the assumptions made for both the base and proposed design, and theoretical or empirical information supporting these assumptions.

OR

OPTION 2 — PRESCRIPTIVE COMPLIANCE PATH: ASHRAE Advanced Energy Design Guide (1 Point)

Comply with the prescriptive measures of the ASHRAE Advanced Energy Design Guide appropriate to the project scope, outlined below. Project teams must comply with all applicable criteria as established in the Advanced Energy Design Guide for the climate zone in which the building is located.

PATH 1. ASHRAE Advanced Energy Design Guide for Small Office Buildings 2004

The building must meet the following requirements:

- Less than 20,000 square feet.
- Office occupancy.

PATH 2. ASHRAE Advanced Energy Design Guide for Small Retail Buildings 2006

The building must meet the following requirements:

- Less than 20,000 square feet.
- Retail occupancy.

PATH 3. ASHRAE Advanced Energy Design Guide for Small Warehouses and Self Storage Buildings 2008

The building must meet the following requirements:

- Less than 50,000 square feet.
- Warehouse or self-storage occupancy.

OR

OPTION 3 — PRESCRIPTIVE COMPLIANCE PATH: Advanced Buildings™ Core Performance™ Guide (1-3 Points)

Comply with the prescriptive measures identified in the Advanced Buildings™ Core Performance™ Guide developed by the New Buildings Institute. The building must meet the following requirements:

- Less than 100,000 square feet.
- Comply with Section 1: Design Process Strategies, and Section 2: Core Performance Requirements.
- Health care, warehouse or laboratory projects are ineligible for this path.

Points achieved under Option 3 (1 point):

- One (1) point is available for all office, school, public assembly, and retail projects less than 100,000 square feet that comply with Sections 1 and 2 of the Core Performance Guide.
- Up to two (2) additional points are available to projects that implement performance strategies listed in Section 3, Enhanced Performance. For every three strategies implemented from this section, one point is available.
- The following strategies are not eligible for additional points under this Credit:
    - 3.1-Cool Roofs
    - 3.8-Night Venting
    - 3.13-Additional Commissioning

OR

OPTION 4 —COMPLIANCE PATH: CIVIL/INFRASTRUCTURE PROJECTS (1 – 6 Points)

Up to 6 points are available to Civil/Infrastructure projects. To obtain points in this credit, the energy usage of the respective infrastructure elements must exceed the benchmark requirements in SAM Credit 4.2, Option 4, by the levels shown below:

Exterior Lighting (non-aviation related)

Exterior lighting applications (non-aviation related), such as roadways, surface parking lots and covered parking garages, must exceed the minimum requirements set forth in Tables 6-07-1 and 6-07-2 of Section 6-07 of the OMP Design and Construction Standards, Vol. II, Rev. 3 (June 1, 2006) by the following levels:

1 point = 8% improvement over benchmark standard
2 points = 16% improvement over benchmark standard
3 points = 24% improvement over benchmark standard
4 points = 32% improvement over benchmark standard
5 points = 40% improvement over benchmark standard
6 points = 48% improvement over benchmark standard

Note for parking lots associated with buildings, the parking lighting should be considered a part of the building's electrical usage and therefore Options 1, 2, or 3 should be used. This option is to be used only for stand-alone parking areas or structures not directly associated with a building.

Pumping Systems

Pumping systems not directly associated with buildings, must exceed the minimum full-load efficiency requirements in ASHRAE/IESNA Standard 90.1-2007, Table 10.8, for 4-pole, enclosed motors at 1800 rpm by the following levels:

1 point = 8% improvement over benchmark standard
2 points = 16% improvement over benchmark standard
3 points = 24% improvement over benchmark standard
4 points = 32% improvement over benchmark standard
5 points = 40% improvement over benchmark standard
6 points = 48% improvement over benchmark standard

Airfield Lighting

For runway/taxiway lighting, exceed the minimum FAA specifications by the levels below. Note that the benchmark calculation shall assume that conventional lights are used throughout the project and that the calculation must be based on annual energy consumption and use seasonal climate data for the region, where applicable.

1 point = 8% improvement over benchmark standard
2 points = 16% improvement over benchmark standard
3 points = 24% improvement over benchmark standard
4 points = 32% improvement over benchmark standard
5 points = 40% improvement over benchmark standard
6 points = 48% improvement over benchmark standard

For projects that include multiple infrastructure elements such as those listed above, a weighted average based on the annual energy usage shall apply.

Example: A roadway project that includes a lift station realizes an annual energy savings of 65% over the benchmark standard for roadway lighting and 15% over the benchmark standard for pump systems. If the annual energy usage of the roadway lighting and the lift station is 40,000 kWh and 60,000 kWh, respectively, then the overall annual energy savings for the project is 35%. Therefore, 4 points are earned for this credit.

Example Calculation:

$$\frac{(65\%)\ (40{,}000\text{ kWh}) + (15\%)\ (60{,}000\text{ kWh})}{(100{,}000\text{ kWh})} = 35\%$$

= 35% overall energy savings for entire project; therefore 4 points for SAM Credit 4.4

In some cases, there may be powered infrastructure elements that do not appear in the categories above for Option 4. In those cases, the designer may chose to demonstrate the energy savings based on an appropriate benchmark and submit for SRP review.

OR

OPTION 5 – PRESCRIPTIVE COMPLIANCE PATH: CIVIL/INFRASTRUCTURE PROJECTS (1 – 3 Points)

For civil/infrastructure projects, in lieu of performing a detailed energy usage calculation, a prescriptive compliance path is available. To earn points using this method, the project must meet SAM Credit 4.2, Option 4, where applicable, and use any of the energy saving technologies or strategies listed in the table below. A point is earned for each of the following technologies up to a maximum of 3 points for this credit.

Technology/Strategy	Points
LED lighting for roadways, parking areas, or pedestrian areas	1 Point
LED runway lights or taxiway lights	1 Point
Nighttime/motion sensor or electronically-controlled ballast activation for	1 Point
High efficiency motors, >92% at full load for all motor horsepower ratings	1 Point
Variable speed drive for pump motors	1 Point
Solar powered signage, lighting, or equipment	1 Point
The SRP will consider other proposed strategies or technologies	1 Point
Any combination of the above items	Up to 3 Points Maximum

NOTE: The awarding of points will be at the discretion of the SRP.

Example: A service road that meets the requirements of SAM Credit 4.2 also uses LED fixtures for the roadway lighting (1 point) and uses light sensors to turn these lights on/off automatically depending on ambient light levels (additional 1 point). This project would earn 2 points overall for this credit.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Design the building envelopes, infrastructure, and powered systems to maximize energy performance. Use a computer simulation models or engineering design calculations to assess the energy performance and identify the most cost-effective energy efficiency measures. Quantify energy performance compared with a baseline building or infrastructure system.

Standard Practice

- For Buildings: The Chicago Energy Conservation Code (CECC 2008) currently requires that buildings meet the 2006 International Energy Conservation Code (IECC) which has an alternate compliance path of following ASHRAE/IESNA 90.1-2004 standard with some exceptions. LEED 2009 and the SAM require the more current ASHRAE/IESNA 90.1-2007 standard.

- For Civil/Infrastructure: Exterior lighting is typically high pressure sodium or metal halide lamps. Larger pump systems use variable frequency drives and efficient motors. LED lights are standard practice for all taxiways. Newer pump stations have installed variable speed drives and high efficiency motors.

Recommended Practice

Consider the following for buildings and structures:

- Use a computer simulation model to assess energy performance and identify the most cost effective energy measures.
- Provide high-efficiency motors and variable-speed pumping systems.
- Provide energy efficient lighting systems including LED, fluorescent lighting, solar lighting and the use of lighting sensors or timers.
- Organize circuiting of lighting and building systems so that individual areas may be separately controlled relative to daylight and heating/cooling zones.
- Orient building to optimize passive solar and/or daylight penetration.
- Optimize architectural features for daylighting and glare control. Consider light shelves, ceiling design, window placement, and window treatments
- Provide motion sensors in stairs, toilet rooms, storage rooms and equipment rooms unless life safety is compromised.
- Provide "Energy Star" compliant equipment and appliances.
- Control air infiltration through all exterior openings including loading docks.
- Use LED lighting, wherever applicable.
- Optimize lighting controls for energy savings and function.
- Provide daylight harvesting control systems.
- Use high performance glazing (double glazed, low-e) and window systems.
- Evaluate appropriate levels of insulation and for building envelope.
- Utilize high efficiency motors, generators and pumps where applicable.

Consider the following for all civil and infrastructure projects :

- Use LED lighting wherever applicable and approved for:
    - Runways, as approved
    - Taxiways
    - Distance remaining signs
    - In-surface fixtures
    - Obstruction lighting
    - NAVAIDS and windsocks
    - Ramp area lighting
    - Traffic signals/Stop signs
    - Directional signs
    - Other areas, as approved.
    - LED lighting for roadways, parking areas, or pedestrian areas
- Nighttime/motion sensor or electronically-controlled ballast activation for roadway, parking, or pedestrian lighting, as applicable, with special consideration for safety.
- High efficiency motors, generators and pumps
- Variable speed drives for pump motors

- Solar powered signage, lighting, or equipment

Best Available Practice

Consider the following for buildings and structures:
- Evaluate cogeneration for new terminals and concourses
- Integrate lighting systems with Building Automation System.
- Use spectrally selective glazing
- Evaluate underfloor air distribution systems in office-type spaces.
- Evaluate thermal mass for building envelope.
- Evaluate "green walls" for building façade.
- Utilize premium efficiency motors where applicable.
- Ground-source heat pumps for pre-heating/pre-cooling of water systems.
- For in-terminal seating – integrated power stations

Consider the following for civil and infrastructure projects:
- Use induction lighting
- Comprehensive "smart" systems for lighting and signage
- Reduce energy transmission loss
- Proximity of power sources/on-site generation
- Nanotechnologies and biomimicry

CASE STUDY

Delta Airlines Terminal A
Boston Logan International Airport - Boston, Massachusetts

Terminal A at Boston Logan International Airport has become the first airport terminal in the country to win certification for its green technology. The terminal, which opened to Delta Air Lines customers in March 2005, received the Leadership in Energy and Environmental Design certification for Environmental Sustainability from the US Green Building Council.

http://www.boston.com/news/local/articles/2006/08/02/logans_terminal_a_goes_green/

Moving Walkways
Boston Logan International Airport - Boston, Massachusetts

Boston Logan International Airport is undergoing tests on energy-efficient moving walkways. The walkways are equipped with EcoStart, which contains a motor efficiency controller that soft starts an electric motor, bringing it from rest to full speed. Once at full speed, the EcoStart monitors the motor and improves its efficiency when operating. Initial test efforts are estimated to conserve approximately 60,000 kilowatt-hours (kWh) per year.

http://www.automation.com/content/boston-logan-international-airport-saves-energy-on-moving-walks-in-project-with-kone-inc-and-power-efficiency-corporation

Baggage Check-In Building
Reno-Tahoe International Airport - Reno, Nevada

The new airport baggage check-in building at Reno-Tahoe International Airport was designed with an efficient HVAC system, in addition to utilization of energy-efficient entryways to reduce heat/cooling loss. This helps the airport monitor and reduce overall energy use.

http://www.qdconstructionreno.com/projects/newest-projects/reno-tahoe-airport-baggage-check-in.html

4.0 ENERGY & ATMOSPHERE

4.5 On-Site Renewable Energy

1 to 7 Points

INTENT

Encourage and recognize increasing levels of on-site renewable energy self-supply in order to reduce environmental and economic impacts associated with fossil fuel energy use.

REQUIREMENTS

Use on-site renewable energy systems to offset building energy cost. Calculate project performance by expressing the energy produced by the renewable systems as a percentage of the building annual energy cost and using the table below to determine the number of points achieved.

Determine the percentage of energy derived from renewable energy equipment against the proposed energy cost calculated for SAM Credit 4.4. If no energy model was prepared for SAM Credit 4.4, use the Department of Energy (DOE) Commercial Buildings Energy Consumption Survey (CBECS) database to determine the estimated electricity use in the case of a building project. For civil projects, the portion of energy derived from renewable energy systems will be based on the fraction of the total energy replaced with on-site generated renewable energy assuming the project used conventional energy supplies (utility supplied electricity and gas).

SAM Credit 8.4 – Menu Items address the use of lesser amounts renewable energy on a project, amounts that do not meet the 1% threshold in this credit.

SAM Credit	% Renewable Energy	Points
4.5.1	1%	1
4.5.2	3%	2
4.5.3	5%	3
4.5.4	7%	4
4.5.5	9%	5
4.5.6	11%	6
4.5.7	13%	7

Example: A civil project, for example a pumping station, with a proposed energy consumption calculated at 100,000 kWh per year assuming all its energy was supplied by utility electricity, installed a wind turbine that can generate 6,000 kWh per year or 6% of the total proposed energy consumption. The project would then achieve 3 points under this credit.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Assess the project for non-polluting and renewable energy potential including solar, wind, geothermal, low-impact hydro, biomass and bio-gas strategies. When applying these strategies, take advantage of net metering with the local utility. Energy systems which are not eligible for this credit (but may be applicable under another credit) include architectural features such as daylighting and passive solar techniques, ground source heat pumps using small quantities of deep earth heat and vapor compression systems, and renewable energy from off-site sources.

Standard Practice

The following are Standard Practice:

- Solar powered signage.
- Solar powered RPU for weather sensors.
- Solar powered obstruction and barricade lighting.
- Solar thermal water heating has been used at a number of locations, such as the ARFF Station #2, which has a system that provides hot water for up to 18 full time occupants.

Recommended Practice

None.

Best Available Practice

The following technologies should be considered for any applicable projects:

- Roof-mounted or building integrated photovoltaic panels
- Electricity generation using bio-fuels (untreated wood waste, agricultural crops or waste, landfill gas)
- Solar-thermal water or air heating
- Geothermal heating systems
- Geothermal electrical systems

CASE STUDIES

Wind Turbines
Boston Logan International Airport - Boston, Massachusetts

A fleet of miniature wind turbines at Boston Logan International Airport, each 6-foot-tall, placed at the edge of the rooftop of the airport's headquarters, is affixed at a unique angle to capture the winds that gust through Boston Harbor and climb the building's walls. The 20 turbines, installed in July 2008, are expected to generate about 100,000 kilowatt-hours annually, equal to 3% of the building's energy needs.

http://www.leedbuilding.org/News/USGBCInTheNewsDetails.aspx?ID=3829

Hangar 25
Bob Hope Airport - Burbank, California

Hangar 25 at Bob Hope Airport, Burbank, California, is a $17 million structure designed to be a model of green construction and was built for what a traditional aircraft hangar would cost, said Andy Meyers, president of Shangri-La Construction. The hangar features solar panels, skylights, artificial grass, low-flush toilets, and massive aerating fans. Situated on a former industrial lot with a cement slab, the hangar property now houses a state-of-the-art green aviation hangar minimizing the 51,000-square-foot building's carbon footprint. Avjet Corp. is the building owner. The building received a Platinum LEED® certification. In addition to providing power to run the tools and machines to maintain the planes, the energy from the solar panels on the roof powers the building's offices, copiers, computers and coffee machines, Picard said. The building generates 110 percent of the energy it needs and then gives the surplus energy back to the municipal grid. Grates at the building's entrance scrape off contaminants under shoes. No toxic chemicals fill the fire suppression system. The concrete floor has no chemical polymers. In the office area, all of the cabinets are made of Plyboo®, a type of bamboo with a water-based finish.

http://www.usgbc.org/News/USGBCInTheNewsDetails.aspx?ID=3899

Author: Jerry Berrios, Contra Costa Times, December 10, 2008

See Also:

http://3030nclybournavenue.com/files/hangar_project_summary.pdf

http://www.huffingtonpost.com/paige-donner/greening-hollywood-jet-ha_b_150102.html

Solar Power System
Denver International Airport - Denver, Colorado

The airport has implemented a renewable energy project that consists of a two megawatt solar panel system designed to generate over three million kilowatt hours of clean electricity annually. This cost-effective energy system encompasses 7.5 acres and was developed by a public-private partnership utilizing tax credits and incentives. This initiative shows that airports can embrace renewable energy in a financially viable way and increase the overall sustainability of their operations.

http://coloradoenergynews.com/2008/08/public-private-partnership-powers-dia-solar/

4.0 ENERGY & ATMOSPHERE

4.6 Enhanced Commissioning

2 Points

INTENT

Begin the commissioning process early in the design process and execute additional activities after systems performance verification is completed.

REQUIREMENTS

Implement, or have a contract in place to implement, the following additional commissioning process activities in addition to the requirements of SAM Credit 4.1:

- Prior to the start of the construction documents phase, designate an independent Commissioning Authority (CxA) to lead, review, and oversee the completion of all commissioning process activities.
  - The CxA shall have documented commissioning authority experience in at least two building projects.
  - b. The individual serving as the CxA:
    - Must be independent of the work of design and construction;
    - Must not an employee of the design firm, though they may be contracted through them;
    - Must not be an employee of, or contracted through, a contractor or construction manager holding construction contracts; and
    - May be a qualified employee or consultant of the Owner.
  - c. The CxA must report results, findings and recommendations directly to the Owner.

- The CxA must conduct, at a minimum, 1 commissioning design review of the Owner's Project Requirements (OPR), Basis of Design (BOD), and design documents prior to mid-construction documents phase and back-check the review comments in the subsequent design submission.

- The CxA must review contractor submittals applicable to systems being commissioned for compliance with the OPR and BOD. This review shall be concurrent with A/E reviews and submitted to the design team and the Owner.

- The CxA or other project team members must develop a systems manual that gives future operating staff the information needed to understand and optimally operate the commissioned systems.

- The CxA or other project team members must verify that the requirements for training operating personnel and building occupants are completed.

- The CxA must be involved in reviewing the operation of the building with operations and maintenance (O&M) staff and occupants within 10 months after substantial completion. A plan for resolving of outstanding commissioning-related issues must be included.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Although it is preferable that the CxA be contracted by the Owner, for the enhanced commissioning credit, the CxA may also be contracted through the design firms or construction management firms not holding construction contracts. The LEED Reference Guide provides detailed guidance on the rigor expected for following process activities:

- Commissioning design review
- Commissioning submittal review
- Systems manual

Though the commissioning process should start as early in the design process as possible, it is allowable to engage a CxA agent to conduct the design review required after construction has started, so long as the project team agrees to implement any requested changes both to the documents and to construction that may have already occurred.

Standard Practice

None.

Recommended Practice

- Review the design intent and the basis of design documentation.
- Incorporate commissioning requirements into the construction documents.
- Develop and utilize a commissioning plan.
- Verify installation, functional performance, training, operations and maintenance documentation.
- Complete a commissioning report.
- Provide the owner with a single manual that contains the information required for re-commissioning systems.
- Engage a commissioning team that does not include individuals directly responsible for project design or construction management to evaluate both building and site systems as part of the commissioning plan.
- Priority Systems - high energy consuming systems

  - Central Building Automation system
  - All HVAC system equipment
  - Lighting controls and sensors
  - Site Lighting
  - Refrigeration systems
  - Vertical Transport
  - Building Envelope
  - Baggage handling systems (included in process loads: to promote energy savings, use the exceptional calculation method described in ANSI/ASHRAE/IESNA 90.1-2007 G2.5)
  - Information Technology Systems - IT (included in process loads: to promote energy savings, use the exceptional calculation method described in ANSI/ASHRAE/IESNA 90.1-2007 G2.5)
- Lower Priority Systems – low energy consuming system.
  - Emergency Power Generators and Automatic Transfer Switching
  - Uninterruptible Power Supply systems
  - Life Safety systems; Fire protection Fire alarm, Egress pressurization
  - Lightning Protection
  - Domestic and Process water pumping and mixing systems
  - Equipment sound control systems
  - Data and Communication systems
  - Paging systems
  - Security systems
  - Irrigation systems
  - Plumbing
  - Illuminated guidance signage
- For Runways, Civil/Stormwater and Roadways/Rail projects this scope should include the following project components.
  - For support and ancillary buildings include all of the applicable systems and assemblies noted above
  - Runway lighting and illuminated signage
  - Runway NAVAIDS
  - Site lighting systems
  - Traffic signals
  - Stations (e.g., pump stations, lift stations, drainage pumps)
  - Heating/Deicing systems
  - Oil/water separators

Best Available Practice
None.

CASE STUDY

STAR Program
Metropolitan Airports Commission – Minneapolis, Minnesota

Minneapolis – St. Paul International Airport recently launched the Stewards of Tomorrow's Airport Resources (STAR) initiative. Airport operators develop and implement sustainable solutions that address long-term environmental, operational, financial and social needs. Goals include minimizing impacts to air quality, reducing waste reduction and hazardous materials use, as well as developing alternative energy programs.

http://www.enviro.aero/MSPSTAR.aspx

4.0 ENERGY & ATMOSPHERE

4.7 Enhanced Refrigerant Management

2 Points

INTENT

Reduce ozone depletion and support early compliance with the Montreal Protocol while minimizing direct contributions to global warming.

REQUIREMENTS

OPTION 1

Do not use refrigerants.

OR

OPTION 2

Complete both of the following:

Select refrigerants and HVAC&R that minimize or eliminate the emission of compounds that contribute to ozone depletion and global warming. The base building HVAC&R equipment shall comply with the following formula, which sets a maximum threshold for the combined contributions to ozone depletion and global warming potential:

$$\mathrm{LCGWP} + \mathrm{LCODP} \times 10^5 \leq 100$$

Where:
$\mathrm{LCODP} = [\mathrm{ODP}_r \times (\mathrm{Lr} \times \mathrm{Life} + \mathrm{Mr}) \times \mathrm{Rc}]/\mathrm{Life}$
$\mathrm{LCGWP} = [\mathrm{GWPr} \times (\mathrm{Lr} \times \mathrm{Life} + \mathrm{Mr}) \times \mathrm{Rc}]/\mathrm{Life}$
LCODP: Lifecycle Ozone Depletion Potential (lbCFC11/Ton-Year)
LCGWP: Lifecycle Direct Global Warming Potential (lbCO2/Ton-Year)
GWPr: Global Warming Potential of Refrigerant (0 to 12,000 lbCO2/lbr)
ODPr: Ozone Depletion Potential of Refrigerant (0 to 0.2 lbCFC11/lbr)
Lr: Refrigerant Leakage Rate (0.5% to 2.0%; default of 2% unless otherwise demonstrated)
Mr: End-of-life Refrigerant Loss (2% to 10%; default of 10% unless otherwise demonstrated)
Rc: Refrigerant Charge (0.5 to 5.0 lbs of refrigerant per ton of cooling capacity)
Life: Equipment Life (10 years; default based on equipment type, unless otherwise demonstrated)

For multiple types of equipment, a weighted average of all base building level HVAC&R equipment shall be applied using the following formula:

$$[\ \Sigma\ (\mathrm{LCGWP} + \mathrm{LCODP} \times 10^5) \times \mathrm{Qunit}\ ] \ /\ \mathrm{Qtotal} \leq 100$$

Where:
Qunit = Cooling capacity of an individual HVAC or refrigeration unit (Tons)
Qtotal = Total cooling capacity of all HVAC or refrigeration

Small HVAC units (defined as containing less than 0.5 lbs of refrigerant), and other equipment such as standard refrigerators, small water coolers, and any other cooling equipment that contains less than 0.5 lbs of refrigerant, are not considered part of the "base building" system and are not subject to the requirements of this credit.

AND

Do not install fire suppression systems that contain ozone-depleting substances (CFCs, HCFCs or Halons).

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Design and operate the facility without mechanical cooling and refrigeration equipment. Where mechanical cooling is used, utilize base building HVAC and refrigeration systems for the refrigeration cycle that minimize direct impact on ozone depletion and global warming. Select HVAC&R equipment with reduced refrigerant charge and increased equipment life. Maintain equipment to prevent leakage of refrigerant to the atmosphere. Utilize fire suppression systems that do not contain HCFCs or Halons.

Standard Practice

None.

Recommended Practice

None.

Best Available Practice

Use natural refrigerants (carbon dioxide, ammonia, propane) where possible, in order to minimize ODPs and GWPs.

4.0 ENERGY & ATMOSPHERE

4.8 Measurement & Verification

3 Points

INTENT

Provide for the ongoing accountability of building energy consumption over time.

REQUIREMENTS

- Develop and implement a Measurement & Verification (M&V) Plan consistent with Option D: Calibrated Simulation (Savings Estimation Method 2), or Option B: Energy Conservation Measure Isolation, as specified in the International Performance Measurement & Verification Protocol (IPMVP) Volume III: Concepts and Options for Determining Energy Savings in New Construction, April, 2003.
- The M&V period shall cover a period of no less than one year of post-construction occupancy.

SUBMITTALS

Include descriptive narrative in SAM Checklist and M&V Plan.

TECHNOLOGY/STRATEGY

Develop an M&V Plan to evaluate building and/or energy system performance. Characterize the building and/or energy systems through energy simulation or engineering analysis. Install the necessary metering equipment to measure energy use. Track performance by comparing predicted performance to actual performance, broken down by component or system as appropriate. Evaluate energy efficiency by comparing actual performance to baseline performance.

While the IPMVP describes specific actions for verifying savings associated with energy conservation measures (ECMs) and strategies, this Credit expands upon typical IPMVP M&V objectives. M&V activities should not necessarily be confined to energy systems where ECMs or energy conservation strategies have been implemented. The IPMVP provides guidance on M&V strategies and their appropriate applications for various situations. These strategies should be used in conjunction with monitoring and trend logging of significant energy systems to provide for the ongoing accountability of building energy performance.

Standard Practice

None.

Recommended Practice

- Install continuous metering equipment for the following end-uses:
    - Lighting systems and controls
    - Constant and variable motor loads
    - Variable frequency drive (VFD) operation
    - Chiller efficiency at variable loads (kW/ton)
    - Cooling load
    - Air and water economizer and heat recovery cycles
    - Air distribution static pressures and ventilation air volumes
    - Boiler efficiencies
    - Building-related process energy systems and equipment
    - Indoor water risers and outdoor irrigation
- Develop a Measurement and Verification plan that incorporates the monitoring information from the above end-uses and is consistent with Option B, C or D of the 2001 International Performance Measurement & Verification Protocol (IPMVP) Volume I: Concepts and Options for Determining Energy and Water Savings.
- Investigate whether these facilities will be included in the City of Chicago's Global Building Monitoring System.
- Consider the recommendations included in the Chicago Climate Action Plan

Best Available Practice

- Draft a Measurement & Verification Plan to apply during building operation that compares predicted savings to those achieved.

CASE STUDY

Airport Monitoring System
San Francisco International Airport – San Francisco, California

Energy and building management systems assist in controlling and monitoring mechanical and electrical systems in airport buildings. The utilities management system at San Francisco International Airport ensures efficient energy distribution and helps to diagnose the maintenance needs for HVAC, lighting, and other electrical systems, as well as optimizes energy consumption.

http://www.sustainablefacility.com/CDA/Archives_EPM/2135b7a1f65b8010VgnVCM100000f932a8c0

4.0 ENERGY & ATMOSPHERE

4.9 Green Power

2 Points

INTENT

Encourage the development and use of grid-source, renewable energy technologies on a net zero pollution basis.

REQUIREMENTS

Engage in at least a 2-year renewable energy contract to provide at least 35% of the building's electricity from renewable sources, as defined by the Center for Resource Solutions Green-e Energy product certification requirements.

OPTION 1. DETERMINE THE BASELINE ELECTRICITY USE

Use the annual electricity consumption from the results of the subparts of SAM Credit 4.4.

OR

OPTION 2. ESTIMATE BASELINE ELECTRICITY USE

Use the U.S. Department of Energy Commercial Buildings Energy Consumption Survey database to determine the estimated electricity use.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Determine the energy needs of the building and investigate opportunities to engage in a green power contract. Green power is derived from solar, wind, geothermal, biomass or low-impact hydro sources. Visit http://www.green-e.org/energy for details about the Green-e program. The power product purchased to comply with credit requirements need not be Green-e certified. Other sources of green power are eligible if they satisfy the Green-e program's technical requirements. Renewable energy certificates (RECs), tradable renewable certificates (TRCs), green tags and other forms of green power that comply with Green-e's technical requirements can be used to document compliance with this section.

Standard Practice

None.

Recommended Practice

- Determine the City of Chicago's Green Power requirements for the task/project and investigate opportunities to engage in a green power contract with the utility.
- Visit www.green-e.org for details about the Green-e program.

Best Available Practice

None.

CASE STUDIES

Green Power
Los Angeles World Airports - Los Angeles, California

Los Angeles World Airports (LAWA) has embraced energy efficiency for over 20 years. The efficient use of energy and the incorporation of green power are critical factors in sustainable operations at LAWA's facilities. LAWA has retrofitted existing buildings with energy efficient lighting fixtures, ballasts and bulbs. It has upgraded 80 percent of the building air handling units with variable speed drives and soft-start controls. Additionally, 60 percent of LAWA computer servers have been upgraded to high efficiency servers. Twenty-five percent of Los Angeles International Airport's (LAX) power comes from green sources. LAX's Central Utilities Plant co-generates steam to heat and air condition passenger terminals and offices. When feasible, Ontario International Airport (ONT) closes one of the runways at night to save power. ONT is also installing occupancy sensors in their administration areas and encouraging employees to turn off the lights. When appropriate, inefficient fan drives are replaced with variable fan drives.

http://www.lawa.org/welcome_LAWA.aspx?id=1036

Electricity from Waste
Los Angeles World Airports - Los Angeles, California

Over 8,000 tons of food waste produced each year at Los Angeles International Airport is being used to produce methane gas which is then recycled and turned into electricity. This complex process involves food being ground up and mixed with water, creating a slurry, which is then heated up into methane gas and carbon dioxide. Eventually this is transferred offsite to an adjacent power generation plant and converted into electricity.

http://wasteage.com/mag/waste_los_angeles_airport/

5.0 MATERIALS & RESOURCES

5.1 Prerequisite 1 – Storage & Collection of Recyclables

Required

INTENT

Facilitate the reduction of waste generated by building occupants and for civil/infrastructure projects within the airport environment that is hauled to and disposed of in landfills.

REQUIREMENTS

Provide an easily accessible dedicated area or areas that serve the entire building and for the airport environment for the collection and storage of materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics and metals. An area should also be dedicated to collection and storage of plant-based landscaping debris (trimmings), unless the site has no landscaping.

NOTE: For construction waste, see SAM Credits 5.3 and 7.5.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Designate an area for recyclable collection and storage that is appropriately sized and located in a convenient area. These areas would likely be designed and sized differently depending on the ultimate use and waste stream of the facility (e.g., terminal, airfield, office, airlines, concessionaires, cargo, hangar, etc.) Identify local waste handlers and buyers for glass, plastic, office paper, e-waste, newspaper, cardboard, metals, fluids, fixtures, and organic wastes. Instruct occupants, employees and contractors on the recycling procedures. Consider employing cardboard balers, aluminum can crushers, recycling chutes and other waste strategies to further enhance the recycling program.

Standard Practice

These items are addressed in varying degrees utilizing appropriate strategies within an airport environment. For additional details, see CDA Best Management Practices (BMPs) Manual.

Recommended Practice

- Investigate and incorporate collection rooms for recycling streams that make sense for each facility.
- Coordinate recyclable waste collection with hauler capability.
- Recycle the following waste, whenever feasible:
    - Aluminum
    - Glass
    - Paper, newspapers, magazines and cardboard
    - Carpet
    - Wood (pallets/crates, etc.)
    - Food waste/grease and compostables
    - Organic waste and compostables
    - Gas & oil filters
    - Motor oil and Anti-freeze
    - Scrap metal
    - Batteries
    - Light bulbs
    - Toner cartridges
    - Tires
    - Electrical wiring
    - Electronics including monitors
    - Deicing fluid
    - "Foreign Object Debris" (FOD)
- Instruct employees, users and occupants on recycling procedures.
- Designate an area for recyclable collection and storage that is appropriately sized and located in a convenient area.

Best Available Practice

- Employ cardboard balers, aluminum can crushers, recycling chutes and other technologies to enhance the recycling program.
- Reduce use of water bottles by enabling provisions for water dispensers for refills.
- Reduce use of water bottles by providing area and collection capability on non-secured side of terminal to allow for the dumping of liquids and refill opportunity post security.

CASE STUDIES

Airline Pillow Recycling
Oakland International Airport - Oakland, California

Oakland International Airport is one of the first airports in the nation to participate in a pillow recycling program. Instead of being discarded, the pillows are used as insulation or as material in making furniture.

http://www.airports.org/aci/aci/file/ACI_Priorities/Environment/TRACKER%20FILE_Airport%20environment%20initiatives.pdf

Recycling Initiative
Seattle-Tacoma International Airport - Seattle, Washington

In addition to recycling 10 to 12 tons of coffee grounds a month, Sea-Tac also went from recycling 112 tons of material five years ago to an estimated 1,200 tons this year — everything from contaminated soil to motor oil.

http://www.airports.org/aci/aci/file/ACI_Priorities/Environment/TRACKER%20FILE_Airport%20environment%20initiatives.pdf

Recycling Initiative
Baltimore/Washington International Airport - Baltimore, Washington

The Maryland Aviation Administration (MAA) has led an aggressive effort to encourage and increase recycling at Baltimore/Washington International. These efforts include recycling facilities within all areas of the airport, including the airside and landside areas and the terminal and cargo buildings.

http://www.menv.com/recycling%20award%20071206.shtml

5.0 MATERIALS & RESOURCES

5.2 Building and Infrastructure Reuse

1 to 4 Points

INTENT

Extend the life cycle of existing building stock and infrastructure, conserve resources, retain cultural resources, reduce waste and reduce environmental impacts of new buildings and infrastructure as they relate to materials manufacturing and transport.

REQUIREMENTS

Maintain the existing building structure (including structural floor and roof decking) and envelope (the exterior skin and framing, excluding window assemblies and non-structural roofing material) and infrastructure components. The minimum percentage building and infrastructure reuse for each point threshold is shown in the table below.

Hazardous materials that are remediated as a part of the project must be excluded from the calculation of the percentage maintained. If the project includes an addition that is more than 2 times the square footage of the existing building, this credit is not applicable.

AND/OR

Use existing interior nonstructural elements (e.g., interior walls, doors, floor coverings and ceiling systems) in at least 50% (by area) of the completed building, including additions.

If the project includes an addition with square footage more than 2 times the square footage of the existing building, this credit is not applicable.

SAM Credit	Requirement	Points
5.2.1	Maintain 55% Existing Walls, Floors, and Roof or Infrastructure	1
5.2.2	Maintain 75% Existing Walls, Floors, and Roof or Infrastructure	2
5.2.3	Maintain 95% Existing Walls, Floors, and Roof or Infrastructure	3
5.2.4	Maintain 50% Interior Non-Structural Elements	1

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Consider reuse of existing, previously occupied buildings, including structure, envelope and elements and infrastructure. Remove elements that pose contamination risk and upgrade components that would improve energy and water efficiency such as windows, mechanical systems and plumbing fixtures.

Standard Practice

- Evaluate relocation of existing structures for reuse (with special consideration of historical components).
- Consider adaptive reuse of building(s) / structure(s) and potential relocation for the same program use.
- Evaluate maximizing reuse of existing runway and other infrastructure (e.g., utilities, lighting, etc.)
- Quantify the extent of reuse.

Recommended Practice

- Remove elements that pose contamination risk
- Upgrade outdated components
- Seek opportunities to improve the indoor/outdoor and structure sustainability elements (e.g., increasing daylighting, energy efficiency, low VOC finishes, etc. – see other SAM credits)
- Evaluate opportunities for application of deconstruction techniques.

Best Available Practice

None.

CASE STUDY

Aviation Administration Building
Chicago O'Hare International Airport - Chicago, Illinois

The Aviation Administration Building, which houses the Chicago Department of Aviation and the O'Hare Modernization Program offices at O'Hare International Airport is a former military administration building built in the 1940s and abandoned in 1999 when the military base at ORD was closed. The building was renovated in 2005 leaving nearly all of the existing exterior walls, roof, and floors in place. The building provides over 160,000 square feet of office and meeting spaces to the CDA and the OMP.

5.0 MATERIALS & RESOURCES

5.3 Construction Waste Management

1 to 3 Points

INTENT

Divert construction and demolition debris from disposal in landfills and incineration facilities. Redirect recyclable recovered resources back to the manufacturing process and reusable materials to appropriate sites.

REQUIREMENTS

Recycle and/or salvage nonhazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site. Excavated soil and land-clearing debris do not contribute to this credit. Calculations must be done by weight (conversion may be necessary) and must be consistent throughout. The minimum percentage debris to be recycled or salvaged for each point threshold is as follows:

SAM Credit	Recycled or Salvaged	Points
5.3.1	50%	1
5.3.2	75%	2
5.3.3	90%	3

Section 11-4-1905 of the Chicago City Code, includes applicability requirements. For CDA purposes, all airport projects are applicable regardless of Section 11-4-1905.

SUBMITTALS

Include descriptive narrative on the SAM Checklist indicating the name of the project that will utilize the material, if other than current project or temporary storage locations, and the following:

- A design estimate using the construction waste management form in OMP Standard Specification 01524 – Construction Waste Management – to be provided by the designer with the SAM Design Checklist.
- A Waste Management Plan as outlined in OMP Standard Specification 01524 to be provided by the Contractor no later than 15 days prior to start of construction.
- Monthly construction waste management forms provided by the Contractor during construction.
- A final construction waste total provided by the Contractor prior to final payment.

The submittal requirements follow the City of Chicago waste ordinance (Chicago Code Section 11-4-1905) with the following exceptions:

- All airport projects, including those not subject to Section 11-4-1905 of the Chicago Code, shall be subject to the submittal requirements of this credit.
- Submit documentation to CDA for tracking purposes in addition to documentation required by the ordinance.

Note that the requirements of this credit are very similar to the Chicago construction waste ordinance and OMP Standard Specification 01524 with the exceptions as noted above. The 01524 specification follows the City ordinance with additional provisions for submittal requirements and project applicability.

TECHNOLOGY/STRATEGY

Note that the City of Chicago waste ordinance mandates that a minimum of 50% of construction and demolition (C&D) waste produced on-site (as measured by weight) is recycled.

It is expected that these practices may lead to savings in material costs due to resource coordination and income generation from recycled/salvaged materials. Due to the large nature of the OMP construction program, for example, many opportunities exist for on-site material recycling, especially for the aggregate and paving materials.

Standard Practice

Utilize designated areas for recycling construction debris on-site, primarily concrete, asphalt, and aggregates. Other materials are typically handled on a site-and-material-specific basis.

Recommended Practice

- Thoroughly evaluate cut-and-fill needs to develop a balanced earthwork plan to reduce hauling off-site.
- Establish goals for diversion from disposal in landfills and incineration facilities and adopt a construction waste management plan to achieve these goals.
- Consider recycling cardboard, metal, brick, mineral fiber panel, concrete, plastic, wood, glass, gypsum wallboard, carpet and insulation.
- Construction debris processed into a recycled content commodity that has an open market value (e.g., wood derived fuel [WDF], alternative daily cover material, etc.) may be applied to the construction waste calculation.
- Designate a specific area(s) on the construction site for segregated collection and labeling of recyclable materials, and track recycling efforts throughout the construction process.

- Identify construction haulers and recyclers to handle the designated materials. Note that diversion may include donation of materials to charitable organizations and salvage of materials on-site.
- Implement deconstruction planning and techniques into all demolition activities. Careful and planned deconstruction of a facility can provide sustainable benefits related to disposal, reuse of materials, etc.
- Ensure that employees are aware of waste management and recycling procedures.

Best Available Practice

- Evaluate use, as appropriate, of pre-cast or pre-fabricated units whenever possible, to reduce on-site waste generation during construction.

CASE STUDY

Recycling De-Icing Fluid
Seattle-Tacoma International Airport - Seattle, Washington

The Port of Seattle implements state-of-the-art technology for their treatment of aircraft de-icing fluids captured on their aircraft operations areas at the terminals. The treatment diverts industrial stormwater captured in collection piping systems and segregates those flows containing high concentrations of aircraft de-icing fluids into storage lagoons. The remaining low concentrated runoff is treated for the removal of fuels and suspended solids and is then discharged through a deep water outfall in Puget Sound.

http://www.airports.org/aci/aci/file/ACI_Priorities/Environment/TRACKER%20FILE_Airport%20environment%20initiatives.pdf

5.0 MATERIALS & RESOURCES

5.4 Balanced Earthwork, 75% or 95% Managed On-Airport

1 to 2 Points

INTENT

Divert soils from landfills, reduce transportation of soil to off-site locations, and maintain or make soil available for reuse on other on-airport projects.

REQUIREMENTS

Reuse or stockpile for later use, at least 75% of excavation and earthwork soils on airport property and use GPS systems during large-scale grading and earthwork operations. Do not count these earthwork quantities under SAM Credit 5.3 Construction Waste Management. Calculations must be done by volume and must be consistent throughout. Hazardous or special waste soils should not be included in the calculation.

All balanced earthwork activities must be conducted in accordance with SAM Credit 2.1.

SAM Credit	Managed On-Airport	Points
5.4.1	75%	1
5.4.2	95%	2

SUBMITTALS

Use form similar to submittal for SAM Credit 5.3.

TECHNOLOGY/STRATEGY

Due to the large project limits of many airport infrastructure projects, earthwork can be a significant portion of the scope of work. By maintaining a balanced earthwork policy, the amount of transportation and disposal costs, both financial and environmental, can be reduced.

Standard Practice

- The OMP has so far to date managed all earthwork soils on-airport through careful planning and design.
- Evaluate opportunities for on-site soil management which may include infrastructure elevation changes, development of noise berms, considerations for landscaping needs, etc.

Recommended Practice

- Use GPS systems during large-scale grading and earthwork operations.
- Identify stockpile areas, as well as the potential reuse on concurrent projects.

Best Available Practice

None.

CASE STUDY

10C-28C Berms 5&6 and 10L Site Prep
Chicago O'Hare International Airport - Chicago, Illinois

To make way for the new Runway 10C-28C and 10L Extension, existing soil stockpiles; called Berms 5&6, were relocated to a designated area south of Irving Park Rd. A total of 1.8 million cubic yards of soil was moved and stockpiled on airport property. This constituted 100% of all the material moved from the site.

5.0 MATERIALS & RESOURCES

5.5 Aggregate Reuse, 10% by Weight

1 Point

INTENT

Promote the reuse of aggregate from on-airport property sources.

REQUIREMENTS

Reuse aggregates, including sand, gravel, crushed concrete, and recycled asphalt for at least 10% by weight of all aggregates used for permanent structures and pavement. This does not include aggregates used for temporary structures such as haul roads or check dams. The source of the aggregates must be from on-airport property demolition activities or other on-airport projects. When reusing on-site aggregates, these may not be counted under the recycled content of materials, SAM Credit 5.7 – Recycled Content, and should only be counted under this credit. When recycled aggregates from off-site sources are used, then this would count toward SAM 5.7 Recycled Content.

Exemplary Performance

If a project achieves an aggregate reuse rate greater than 90% by weight of all aggregates used for permanent structures, then an additional point may be claimed under SAM Credit 8.0 Innovation in Design/Construction.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

None.

Standard Practice

- Concrete crushing is currently employed at the airport and aggregate stockpiles are usually available. It will be important to identify the appropriate gradation(s) to maximize the reuse potential of aggregates.
- Asphalt grindings are also stored on-site and reused as appropriate.
- To further facilitate aggregate reuse, in addition to reusing on-site aggregates, identify stockpile areas and make aggregates available to other on-airport projects.

Recommended Practice

- Identify aggregates present on-site that can be incorporated into the final development.
- Identify possible uses of recycled aggregates within each project.

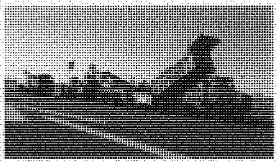
Best Available Practice

- Where approved and appropriate, consider the use of Warm Mix Asphalt (WMA) for paving, which allows for the use of higher quantities of recycled asphalt pavement (RAP, also known as asphalt grindings). Also see SAM Credit 5.7.

CASE STUDY

Warm mix asphalt on Runway 4R/22L
Boston Logan International Airport - Boston, Massachusetts

Aggregate Industries' Northeast Region recently placed 25,952 tons of warm mix asphalt on Runway 4R/22L at Boston Logan International Airport, the first airport in the nation to use the environmentally friendly asphalt on a runway repaving project, according to the Massachusetts Port Authority. This article originally appeared in Asphalt Contractor, a Cygnus sister publication. When the Massachusetts Port Authority (Massport) awarded a $6.3-million contract this past summer to repave Runway 4R/22L at Boston Logan International Airport, the priority was to clearly reduce greenhouse emissions and energy during construction. In a statement released earlier, Massport CEO and Executive Director Thomas J. Kinton Jr. said, "Warm mix uses 20 percent less energy to make, produces 20 percent fewer greenhouse emissions when applied, and allows us to use a higher percentage of recycled asphalt pavement in the final product. This project is another example of Massport leading the way as an airport operator to reduce our impact on the environment wherever we can do so in a financially responsible way." But more importantly, the project provided another way for Massport to continue its environmental stewardship commitment to reduce emissions and recycle valuable resources.



With a warm mix, Massport projected a significant reduction in carbon dioxide and heating fuel, and achieved energy savings and Btus.

http://www.airportbusiness.com/publication/article.jsp?pubId=1&id=26379&pageNum=4

5.0 MATERIALS & RESOURCES

5.6 Material Reuse

1 to 2 Points

INTENT

To reuse building materials and products to reduce demand for virgin materials and reduce waste, thereby lessening impacts associated with the extraction and processing of virgin resources.

REQUIREMENTS

Use salvaged, refurbished or reused materials, the sum of which constitutes at least 5% or 10%, based on cost, of the total value of materials on the project. The minimum percentage materials reused for each point threshold is as follows:

SAM Credit	Reused Materials	Points
5.6.1	5%	1
5.6.2	10%	2

Only include materials in CSI [1] MasterFormat 1995 Divisions 2-10 in the calculations.

Mechanical, electrical and plumbing components and specialty items such as elevators and equipment cannot be included in this calculation. Include only materials permanently installed in the project. Furniture may be included if it is included consistently in SAM Credit 5.6: Materials Reuse through SAM Credit 5.10: Certified Wood.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

Indicate the name of the project that will utilize the material, if other than current project and temporary storage locations if known.

TECHNOLOGY/STRATEGY

Identify opportunities to incorporate salvaged materials into the building design, and research potential material suppliers. Consider salvaged materials such as beams and posts, flooring, paneling, doors and frames, masonry, fencing, metal railing, manhole frames, lids, and catch basins inlets (CSI Divisions 2 through 10, note: CSI Divisions 11 through 16 are counted in SAM Credit 5.11).

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[1] Construction Specification Institute

Use a "virtual warehouse" to maintain a current listing of materials available for reuse on other projects.

Standard Practice

To date, many items have been reused, such as fencing, light standards, and fixtures.

Prior to the demolition and removal of existing building materials and equipment within a project area, notify the Chicago Department of Aviation to allow for the harvesting of used building materials and equipment for potential reuse.

Recommended Practice

None.

Best Available Practice

None.

Case Study

Terminal 2
San Francisco International Airport - San Francisco, California

A number of measures were implemented to reduce the carbon footprint of Terminal 2 and San Francisco International Airport. One such strategy was to reuse a significant portion of the infrastructure system of the existing terminal. This method eliminated an estimated 12,300 tons of carbon dioxide emissions.

http://www.sfoairport.com/web/page/about/T2/sustainability/

5.0 MATERIALS & RESOURCES

5.7 Recycled Content

1 to 2 Points

INTENT

Increase demand for building products that incorporate recycled content materials, thereby reducing impacts resulting from extraction and processing of virgin materials.

REQUIREMENTS

Use materials with recycled content such that the sum of postconsumer recycled content plus 1/2 of the pre-consumer content constitutes at least 10% or 20%, based on cost, of the total value of the materials in the project. The minimum percentage materials recycled for each point threshold is as follows:

SAM Credit	Recycled Content	Points
5.7.1	10%	1
5.7.2	20%	2

The recycled content value of a material assembly is determined by weight. The recycled fraction of the assembly is then multiplied by the cost of assembly to determine the recycled content value. If specific material cost is not available, assume 45% of total cost (inclusive of materials, labor and equipment) is representative of the material cost.

Only include materials in CSI [2] MasterFormat 1995 Divisions 2-10 in the calculations.

Mechanical, electrical and plumbing components and specialty items such as elevators cannot be included in this calculation. Include only materials permanently installed in the project. Furniture may be included if it is included consistently in SAM Credit 5.6: Materials Reuse through SAM Credit 5.11: Furniture and Equipment.

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[2] Construction Specification Institute

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

The submittals include the following:

- A design estimate using the recycled content form in OMP Standard Specification 01356 – Recycled Content – to be provided by the designer with the SAM Design Checklist.
- A pre-construction estimate using the recycled content form in OMP Standard Specification 01356 – Recycled Content – to be provided by the contractor.
- A final construction estimate using the recycled content form in OMP Standard Specification 01356 – Recycled Content – to be provided by the contractor with the SAM Construction Checklist.

TECHNOLOGY/STRATEGY

Establish a project goal for recycled content materials, and identify material suppliers that can achieve this goal. During construction, ensure that the specified recycled content materials are installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

Standard Practice

Due to the nature of the program, the OMP uses and generates large amounts of recycled content materials particularly for the infrastructure projects which contain large amounts of paving materials and reinforcing steel. Where manufacturer information does not exist or cannot be obtained, CDA allows the use of the following recycled content percentages as a default for some of the common construction materials:

Material	Postconsumer	Preconsumer
Steel	25%	-
Copper	65%	-
Aluminum	80%	-
Reinforced concrete pipe	2%	-
Asphaltic paving materials	45%	45%

Postconsumer Recycled Content is derived from materials that can no longer be used for their original purpose.

Preconsumer Recycled Content consists of raw material diverted from the waste stream during the manufacturing process.

Note that the values in the table above are typically very conservative. For example, depending on the process used to make the steel, the recycled content can be anywhere from 25% to 35% for steel produced in a basic oxygen furnace to almost 100% in an electric arc furnace.[3] For this reason, the designers and contractors are encouraged to determine this information directly from the manufacturers and to not rely on these default values whenever possible.

Recommended Practice

- Establish a project goal for recycled content materials and identify material suppliers that can achieve this goal
- Consider the following major building components for specifying maximum recycled content:
    - Aggregate in cast in place concrete
    - Fly-ash in cast in place concrete
    - Aggregate in pre-cast concrete including site work and infrastructure piping
    - Fly-ash in pre-cast concrete including site work and infrastructure piping
    - Bituminous concrete pavement
    - Unit pavers
    - Steel reinforcement
    - Structural steel
    - Miscellaneous steel
    - Steel fencing and furnishings
    - Unit masonry
    - Ductile iron pipe
    - Aluminum products
    - Site generated broken concrete for gabions
    - Railroad rails
    - Railroad ties
    - Railroad track base material
    - Steel doors and frames
    - Aluminum doors and windows
    - Plaster
    - Terrazzo
    - Acoustical ceilings
    - Drywall
    - Finish flooring including carpet, resilient flooring and terrazzo
    - Toilet and shower compartments
    - Special finishes
- During construction, ensure that the specified recycled content materials are installed and quantify the total percentage of recycled content materials installed.

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[3] Steel Recycling Institute

Additionally, the following websites are provided for guidance only:

U.S. General Services Administration - Environmental Products Overview
http://www.gsa.gov/Portal/gsa/ep/contentView.do?contentType=GSA_OVERVIEW&contentId=9845

Architectural Record – Green Product Guide
http://archrecord.construction.com/products/green/

Also suggest internet search for "recycled building materials".

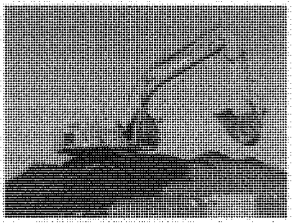
Best Available Practice

Encourage aggressive use of permeable pavement with high recycled content, where applicable, such as recycled ground tire rubber (GTR) for permeable asphalt.

CASE STUDY

Runway 10C/28C East
Chicago O'Hare International Airport - Chicago, Illinois

It is estimated that 21% of the materials (based on cost) used for the project have recycled content. These materials include approximately 115,300 cubic yards of reclaimed concrete and bituminous pavement.



Recycling asphalt grindings at O'Hare

SOURCES

"The Inherent Recycled Content of Today's Steel", Steel Recycling Institute, October 31, 2001.

"Metal Roofs And Walls Provide Building Owners And Architects With Plenty Of "Green" Options", Architectural Metal Newsletter (Sheet Metal and Air Conditioning Contractors' Association), v.12, iss.2, August 24, 2005.

5.0 MATERIALS & RESOURCES

5.8. Local/Regional Materials

1 to 3 Points

INTENT

Increase demand for building and all other materials and products that are extracted, harvested or recovered, as well as manufactured within the region, thereby supporting the use of indigenous resources and reducing the environmental impacts resulting from transportation.

REQUIREMENTS

Use building and all other materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 10% or 20% (based on cost) of the total materials value. If only a fraction of a product or material is extracted/harvested/recovered and manufactured locally, then only that percentage (by weight) shall contribute to the regional value. An additional point can be achieved if 50% of the materials are extracted, harvested, or recovered, as well as manufactured, within 250 miles of the project site. The minimum percentage of local/regional materials for each point threshold is as follows:

SAM Credit	Local/Regional Materials	Points
5.8.1	10%	1
5.8.2	20%	2
5.8.3	50% within 250 miles	3

If specific material cost is not available, assume 45% of total cost (inclusive of materials, labor and equipment) is representative of the material cost.

Only include materials in CSI[4] MasterFormat 1995 Divisions 2-10 in the calculations.

Mechanical, electrical and plumbing components and specialty items such as elevators and FAA equipment shall not be included in this calculation. Only include materials permanently installed in the project. Furniture may be included if it is included consistently in SAM Credit 5.6: Materials Reuse through SAM Credit 5.11: Furniture and Equipment.

NOTE: Materials reused and salvaged that satisfy the requirements of SAM Credit 5.6 may also contribute to this credit.

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[4] Construction Specification Institute

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

The submittals include the following:

- A design estimate using the recycled content form in OMP Standard Specification 01355 – Regional Materials – to be provided by the designer with the SAM Design Checklist.
- A pre-construction estimate using the recycled content form in OMP Standard Specification 01355 – Regional Materials – to be provided by the contractor.
- A final construction estimate using the recycled content form in OMP Standard Specification 01355 – Regional Materials – to be provided by the contractor with the SAM Construction Checklist.

TECHNOLOGY/STRATEGY

Establish a project goal for locally sourced materials, and identify materials and material suppliers that can achieve this goal. During construction, ensure that the specified local materials are installed and quantify the total percentage of local materials installed. Consider a range of environmental, economic and performance attributes when selecting products and materials.

Standard Practice

- The central location of Chicago makes many materials readily available, especially for infrastructure projects.
- Due to sole sourcing and limited availability, FAA equipment and specialty items sometimes can not meet the 500 mile criterion.

Recommended Practice

Identify and specify materials that are extracted, processed, or manufactured within 500 miles of Chicago. Materials that may contribute toward this goal include but are not limited to: concrete, aggregate, asphaltic products, structural steel, masonry, gypsum wallboard, utility structures (manholes, conduit, catch basins, culverts, sewer piping, stormwater piping, etc.), gas and water piping, landscaping materials. Note that piping used indoors for building systems should not be included. Reused and salvaged materials also qualify.

Best Available Practice

None.

CASE STUDY

Terminal A
Boston Logan International Airport - Boston, Massachusetts

Terminal A's redevelopment maximized the use of recyclable materials, natural lighting, energy-conservation plans and alternative-fuel utilization. Many of the building materials were recycled or manufactured locally, and more than 75 percent of construction and demolition waste was diverted from landfills.

http://www.eco-structure.com/projects/signature-logan-terminal-logan-international-airport.aspx

5.0 MATERIALS & RESOURCES

5.9 Rapidly Renewable Materials

1 Point

INTENT

Reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with rapidly renewable materials.

REQUIREMENTS

Use rapidly renewable building materials and products for 2.5% of the total value of all building materials and products used in the project, based on cost. Rapidly renewable building materials and products are made from plants that are typically harvested within a ten-year or shorter cycle.

Only include materials in CSI [5] MasterFormat 1995 Divisions 2-10 in the calculations. Only permanently installed materials should be counted in this credit. Temporary construction materials are counted in SAM Credit 7.11.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Establish a project goal for rapidly renewable materials and identify products and suppliers that can support achievement of this goal. Consider materials such as bamboo, cotton insulation, agrifiber, linoleum, wheatboard, strawboard and cork. Although not a plant material, also consider wool.

Standard Practice

None.

Recommended Practice

- Identify materials and suppliers that can achieve this goal.
- Consider materials such as:
  - Poplar OSB
  - Straw board or "agriboard"
  - Bamboo flooring
  - Cork

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[5] Construction Specification Institute

- Wool carpets and fabrics
- Cotton-batt insulation
- Linoleum flooring
- Sunflower seed board
- Wheat grass or Straw board cabinetry and others.
- Rice husks for concrete

Best Available Practice

None.

5.0 MATERIALS & RESOURCES

5.10 Certified Wood

1 Point

INTENT

Encourage environmentally responsible forest management.

REQUIREMENTS

Use a minimum of 50% (based on cost) of wood-based materials and products, which are certified in accordance with the Forest Stewardship Council's principles and criteria, for wood building components. These components include, but are not limited to, structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes. Only include materials permanently installed in the project. Furniture may be included, providing it is included consistently in activities concerning SAM Credit 5.10.

Only permanently installed materials should be counted in this credit. Sustainable temporary construction materials are counted in SAM Credit 7.11. Furniture may be included if it is included consistently in SAM Credit 5.6: Materials Reuse through SAM Credit 5.11: Furniture and Equipment.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Establish a project goal for FSC-certified wood products and identify suppliers that can achieve this goal. During construction, ensure that the FSC-certified wood products are installed and quantify the total percentage of FSC-certified wood products installed.

Standard Practice

None.

Recommended Practice

- Identify suppliers that can achieve this goal during construction.
- Ensure that the FSC-certified wood products are installed and quantify the total percentage of FSC-certified wood products installed.

Best Available Practice

None.

5.0 MATERIALS & RESOURCES

5.11 Furniture and Equipment

1 Point

INTENT

To reduce the environmental and indoor air quality impacts of the furniture and equipment acquired for use in a building.

REQUIREMENTS

A point is awarded to projects that purchase durable goods (i.e. goods that are replaced infrequently or require capital program outlays to purchase) that meet any of the following sustainable requirements:

- Electric-Powered Equipment. Examples of electric-powered equipment include, but are not limited to, office equipment (computers, monitors, copiers, faxes, scanners, printers), appliances (refrigerators, dishwashers, water coolers), external power adapters, and televisions and other audiovisual equipment. To achieve a point, 40% of the total purchases of electric-powered equipment (by cost) meet one of the following criteria:
    - The equipment is ENERGY STAR labeled (for product categories with developed specifications).
    - The equipment (either battery or corded) replaces conventional gas-powered equipment. Examples include, but are not limited to, maintenance equipment and vehicles, landscaping equipment and cleaning equipment.
- Furniture. To achieve a point, 40% of the total purchases of furniture (by cost) meet one of the following criteria:
    - Purchased furniture contains at least 10% post-consumer or 20% preconsumer material.
    - Purchased furniture contains at least 70% material salvaged from off-site sources or outside the airport boundary.
    - Purchased furniture contains at least 70% material salvaged from on-site sources, such as an equipment reuse program or internal reorganization.
    - Purchased furniture contains at least 50% rapidly renewable material.
    - Purchased furniture contains at least 50% FSC-certified wood.
    - Purchased furniture contains at least 50% material harvested and processed or extracted and processed within 500 miles of the project.

Each furniture purchase can receive credit for each sustainable criterion met (i.e. a $100 purchase that contains both 10% post-consumer recycled content and 50% content harvested within 500 miles of the project counts twice in the calculation, for a total of $200 in sustainable purchasing.

To avoid double counting, furniture materials and electric equipment loads should not be counted in previous SAM categories, such as MR Credit 4.8.1 (Regional Materials) or EA Credit 3.4 (Optimize Energy).

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Designers are encouraged to specify items that help achieve the requirements of this credit whenever possible. A continuously updated list of ENERGY STAR labeled equipment can be found on www.energystar.gov. Sustainable furniture can be found from various sources. GREENGUARD Environmental Institute certifies products, including furniture. See www.greenguard.org for a listing of GREENGUARD certified furniture.

Standard Practice

None.

Recommended Practice

Specify ENERGY STAR electric equipment and/or sustainable furniture systems, such as GREENGUARD certified furniture.

Best Available Practice

None.

5.0 MATERIALS & RESOURCES

5.12 Equipment Salvage and Reuse

1 Point

INTENT

Promote the reuse of equipment and products to reduce demand for virgin materials and reduce waste, thereby lessening impacts associated with the extraction and processing of virgin resources.

REQUIREMENTS

Use salvaged, refurbished or reused equipment and materials, in any appreciable amount on the project or make available for reuse equipment and materials for other projects.

Mechanical, electrical, and plumbing components, and specialty items such as pumps and equipment (CSI Divisions 11 through 16, note: CSI Divisions 2 through 10 are counted in SAM Credit 5.6) can be included. Include only materials permanently installed in the project. Furniture may be included if it is included consistently in SAM Credit 5.6 – Materials Reuse through SAM Credit 5.10 – Certified Wood.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

Indicate the name of the project that will utilize the material, if other than current project or temporary storage locations.

TECHNOLOGY/STRATEGY

The purpose of this credit is to recognize the reuse of items not covered by SAM Credit 5.6.

Identify opportunities to incorporate salvaged materials into the design, and research potential material suppliers. Consider salvaged materials such as cabinetry and furniture, pumps, motors, electrical panels, fixtures and tanks.

Explore and encourage the development of a virtual warehouse for salvaged and reusable items.

Standard Practice

In the process of demolition, many projects have reused or made available for reuse old fencing and guard rails. Guard post structures and kiosks are routinely moved around the airport.

To date, many items have been reused, such as fencing and fixtures.

Recommended Practice

None.

Best Available Practice

None.

CASE STUDY

Airport Hangar Demolition
Ottawa International Airport - Ottawa, Ontario

The demolition of airport hangers and related facilities can result in substantial recycle and reuse opportunities. Over 90 percent of the building materials generated by the demolition of a hanger facility at the Ottawa airport were diverted from a landfill, with 65 percent being recycled and 25 percent being reused. These materials included asphalt paving, cast iron, copper, aluminum, fencing, concrete blocks, windows, restroom components and light fixtures.

http://www3.gov.ab.ca/env/waste/aow/crd/publications/Factsheet-06.pdf

6.0 INDOOR ENVIRONMENTAL QUALITY

6.1 Prerequisite 1 – Minimum Indoor Air Quality (IAQ) Performance

Required

INTENT

Establish minimum indoor air quality (IAQ) performance to enhance indoor air quality in buildings, thus contributing to the comfort and well-being of the occupants.

REQUIREMENTS

Meet the minimum requirements of Sections 4 through 7 of ASHRAE 62.1-2007, Ventilation for Acceptable Indoor Air Quality. Mechanical ventilation systems shall be designed using the Ventilation Rate Procedure or the applicable local code, whichever is more stringent. Naturally ventilated buildings shall comply with ASHRAE 62.1-2007, paragraph 5.1.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Ventilation systems should meet or exceed the minimum outdoor air ventilation rates as described in the ASHRAE standard. Balance the impacts of ventilation rates on energy use and indoor air quality to optimize for energy efficiency and occupant health. Use the ASHRAE 62 Users Manual for detailed guidance on meeting the referenced requirements.

Standard Practice

- Identify potential IAQ conflicts on the site and locate air intakes away from air contaminant source, which might include loading areas, exhaust fans, and cooling towers.
- Locate air intakes in secure areas for protection from potential security breaches.
- Chicago Building Code uses ASHRAE 62.1-2004.

Recommended Practice

- Design HVAC systems to meet ventilation requirements of the referenced standard.
- Evaluate carbon or electrostatic filters for use in passenger terminal buildings.
- Provide a security monitoring system and restrict access to outdoor air intakes for passenger terminal buildings and any other public gathering areas.

- In cases where conflicts with the City of Chicago ventilation code arise, meet the requirements of the more stringent code.

Best Available Practice

None.

CASE STUDY

H. Weir Cook Terminal
Indianapolis International Airport – Indianapolis, Indiana

One of the first airports in the United States to target LEED certification, the new Indianapolis International Airport terminal employs numerous sustainable measures that contribute to the indoor air quality of the building. One such feature includes an energy-efficient underfloor heating/cooling system that will be used in the plaza and adjacent public spaces. Also, the high ceiling space of the terminal will have a conventional air volume HVAC system employing stratification principles to conserve energy.

http://www.airport-technology.com/features/feature554/

6.0 INDOOR ENVIRONMENTAL QUALITY

6.2 Prerequisite 2 – Environmental Tobacco Smoke (ETS) Control

Required

INTENT

Prevent or minimize exposure of building occupants, indoor surfaces, and ventilation air distribution systems to Environmental Tobacco Smoke (ETS).

REQUIREMENTS

OPTION 1

- Prohibit smoking in the building.
- Smoking must be prohibited within 25 feet of entryways, outdoor air intakes and operable windows. Provide signage to allow smoking in designated areas, prohibit smoking in designated areas or prohibit smoking on the entire property.

OR

OPTION 2

- Prohibit smoking in the building except in designated smoking areas.
- Smoking must be prohibited within 25 feet from entries, outdoor air intakes and operable windows.
- Locate designated smoking rooms to effectively contain, capture and remove ETS from the building. At a minimum, the smoking room must be directly exhausted to the outdoors with no re-circulation of ETS-containing air to the non-smoking area of the building, and enclosed with impermeable deck-to-deck partitions. With the doors to the smoking room closed, operate exhaust sufficient to create a negative pressure with respect to the adjacent spaces of at least an average of 5 Pa (0.02 inches of water gauge) and with a minimum of 1 Pa (0.004 inches of water gauge).
- Performance of the smoking room differential air pressures shall be verified by conducting 15 minutes of measurement, with a minimum of one measurement every 10 seconds, of the differential pressure in the smoking room with respect to each adjacent area and in each adjacent vertical chase with the doors to the smoking room closed. The testing will be conducted with each space configured for worst case conditions of transport of air from the smoking rooms to adjacent spaces with the smoking rooms' doors closed to the adjacent spaces.

OR

OPTION 3

- Prohibit smoking in all common areas of the building.
- Locate any exterior designated smoking areas including balconies where smoking is permitted, at least 25 feet away from entries, outdoor air intakes and operable windows opening to common areas.
- Minimize uncontrolled pathways for ETS transfer between individual residential units by sealing penetrations in walls, ceilings and floors in the residential units, and by sealing vertical chases adjacent to the units.
- All doors in the residential units leading to common hallways shall be weather-stripped to minimize air leakage into the hallway.
- If the common hallways are pressurized with respect to the residential units then doors in the residential units leading to the common hallways need not be weather-stripped provided that the positive differential pressure is demonstrated as in Option 2 above, considering the residential unit as the smoking room. Acceptable sealing of residential units shall be demonstrated by a blower door test conducted in accordance with ANSI/ASTM-E779-03, Standard Test Method for Determining Air Leakage Rate By Fan Pressurization, AND use the progressive sampling methodology defined in Chapter 4 (Compliance Through Quality Construction) of the Residential Manual for Compliance with California's 2001 Energy Efficiency Standards (www.energy.ca.gov/title24/residential_manual). Residential units must demonstrate less than 1.25 square inches leakage area per 100 square feet of enclosure area (i.e. sum of all wall, ceiling and floor areas).
- Verification of the performance of smoking rooms may be accomplished through tracer gas testing as an alternative to blower door testing.

Note: It is acceptable to not designate any smoking areas and to provide signage to indicate the prohibition of smoking on the property to satisfy the prerequisite requirements.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Prohibit smoking in commercial buildings, or effectively control the ventilation air in smoking rooms.

Standard Practice

- Chicago Building Code prohibits smoking within 15 feet of entryways which is less stringent than this credit. The distance must be increased to 25 feet to meet this prerequisite.

Recommended Practice

- Prohibiting smoking in the public areas of buildings and locating any exterior designated smoking areas away from entries and operable windows
- Require all parts of the construction sites to be non-smoking.

- Work with labor unions in privately leased tenant spaces to designate these areas as non-smoking.

Best Available Practice

- Where applicable, provide a designated smoking room designed to effectively contain, capture and remove ETS from the building. At a minimum, the smoking room must be directly exhausted to the outdoors with no recirculation of ETS-mixed air to the non-smoking area of the building, enclosed with impermeable deck-to-deck partitions and operated at negative pressure.

- Performance of the smoking rooms shall be verified by using tracer gas testing methods as described in the ASHRAE Standard 129-1997. Acceptable exposure in non-smoking areas is defined as less than 1% of the tracer gas concentration in the smoking room detectable in the adjoining non-smoking areas. Smoking room testing as described in ASHRAE Standard 129-1997, Section 8, is required in the contract documents and critical smoking facility systems testing results must be included in the building commissioning plan and report or as a separate document.

6.0 INDOOR ENVIRONMENTAL QUALITY

6.3 Outdoor Air Delivery Monitoring

1 Point

INTENT

Provide capacity for ventilation system monitoring to help sustain occupant comfort and wellbeing.

REQUIREMENTS

Install permanent monitoring systems to ensure that ventilation systems maintain design minimum ventilation requirements. Configure all monitoring equipment to generate an alarm when airflow values or carbon dioxide (CO_2) levels vary by 10% or more from the design values via either a building automation system alarm to the building operator or via a visual or audible alert to the building occupants.

FOR MECHANICALLY VENTILATED SPACES

- Monitor carbon dioxide concentrations within all densely occupied spaces (those with a design occupant density greater than or equal to 25 people per 1000 sq.ft.). CO_2 monitoring locations shall be between 3 feet and 6 feet above the floor.
- For each mechanical ventilation system serving non-densely occupied spaces, provide a direct outdoor airflow measurement device capable of measuring the minimum outdoor airflow rate with an accuracy of plus or minus 15% of the design minimum outdoor air rate, as defined by ASHRAE 62.1-2007.

FOR NATURALLY VENTILATED SPACES

Monitor CO_2 concentrations within all naturally ventilated spaces. CO_2 monitoring shall be located within the room between 3 feet and 6 feet above the floor. One CO_2 sensor may be used to represent multiple spaces if the natural ventilation design uses passive stack(s) or other means to induce airflow through those spaces equally and simultaneously without intervention by building occupants.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Install carbon dioxide and airflow measurement equipment and interface with the HVAC system and/or Building Automation System (BAS) to trigger corrective action, if applicable. If such automatic controls are not feasible with the building systems, use the measurement equipment to trigger alarms that inform building operators or occupants in the event of a possible deficiency in outdoor air delivery.

Provide audible feedback to building occupants, who in turn know to inform the building's engineer, as a satisfactory means of meeting this aspect of the credit requirement for both the densely occupied areas and the other areas with mechanical ventilation systems.

Standard Practice

None.

Recommended Practice

- Design HVAC systems for passenger terminal and other public assembly and buildings with carbon dioxide monitoring sensors in each space and integrate these sensors with the building automation system (BAS).
- Provide real-time control of terminal unit (VAV box) flowrates and total outdoor air flowrates based on carbon dioxide levels.

Best Available Practice

None.

CASE STUDY

Terminal Building Ventilation System Performance
Austin-Bergstrom International Airport - Austin, Texas

The 550,000 terminal building at Austin-Bergstrom International Airport is equipped with technology that provides monitoring and feedback on ventilation system performance to ensure the system is operating to the building's minimum requirements. Each of the terminal's cooling systems work for a specific application and operate within individual zones. Units provide cooling for special areas such as electrical and mechanical closets and communications areas. This building is regarded as a model for energy efficient terminal building design.

http://www.cleanairports.com/reports/austin.pdf

6.0 INDOOR ENVIRONMENTAL QUALITY

6.4 Increased Ventilation

1 Point

INTENT

Provide additional outdoor air ventilation to improve indoor air quality for improved occupant comfort, well-being and productivity.

REQUIREMENTS

FOR MECHANICALLY VENTILATED SPACES

- Increase breathing zone outdoor air ventilation rates to all occupied spaces by at least 30% above the minimum rates required by ASHRAE Standard 62.1-2007 as determined by SAM Credit 5.1.

FOR NATURALLY VENTILATED SPACES

Design natural ventilation systems for occupied spaces to meet the recommendations set forth in the Carbon Trust "Good Practice Guide 237" [1998]. Determine that natural ventilation is an effective strategy for the project by following the flow diagram process shown in Figure 1.18 of the Chartered Institution of Building Services Engineers (CIBSE) Applications Manual 10: 2005, Natural ventilation in non-domestic buildings.

AND

- Use diagrams and calculations to show that the design of the natural ventilation systems meets the recommendations set forth in the CIBSE Applications Manual 10: 2005, Natural ventilation in non-domestic buildings.

OR

- Use a macroscopic, multi-zone, analytic model to predict that room-by-room airflows will effectively naturally ventilate, defined as providing the minimum ventilation rates required by ASHRAE 62.1-2007 Chapter 6, for at least 90% of occupied spaces.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

For mechanically ventilated spaces: Use heat recovery, where appropriate, to minimize the additional energy consumption associated with higher ventilation rates.

For naturally ventilated spaces: Follow the eight design steps described in the Carbon Trust Good Practice Guide 237 – 1) Develop design requirements, 2) Plan airflow paths, 3) Identify building uses and features that might require special attention, 4) Determine ventilation requirements, 5) Estimate external driving pressures, 6) Select types of ventilation devices, 7) Size ventilation devices, 8) Analyze the design.

Use public domain software such as NIST's CONTAM, Multizone Modeling Software, along with LoopDA, Natural Ventilation Sizing Tool, to analytically predict room-by-room airflows.

Standard Practice

None.

Recommended Practice

- Select and place air diffusers for all mechanically ventilated spaces, particularly office and passenger terminal spaces, following the recommended design approaches in the ASHRAE 2001 Fundamentals, Chapter 32, Space Air Diffusion.
- Section 6 of ASHRAE 62.1-2007 outlines guidelines for determining ventilation rates for various applications of mechanical ventilation systems.

Best Available Practice

- Increase air change effectiveness using the following strategies:
  - Displacement ventilation in passenger terminal areas.
  - Underfloor air distribution in office areas.
  - Operable windows and skylights in cargo buildings.
- Increase air movement in cargo facilities with ceiling fans.
- Install trickle ventilators in cargo facilities to provide natural winter ventilation.
- Install relief vents or operable skylights in cargo facilities to provide stack effect natural ventilation.

CASE STUDY

Natural Ventilation Systems
Honolulu International Airport - Honolulu, Hawaii

The Overseas Terminal at the Honolulu International Airport was designed with natural ventilation so that occupants and travelers could comfortably experience the natural climate. To enhance air circulation in the terminal, local wind and climate studies were compiled to evaluate the best potential practices to ensure comfortable ventilation for building occupants.

http://wai.com/project.aspx?id=1632&type=600&cat=600

6.0 INDOOR ENVIRONMENTAL QUALITY

6.5.1 Construction IAQ Management Plan: During Construction

1 Point

INTENT

Reduce indoor air quality problems resulting from the construction/renovation process in order to help sustain the comfort and well-being of construction workers and building occupants.

REQUIREMENTS

Develop and implement an Indoor Air Quality (IAQ) Management Plan for the construction and pre-occupancy phases of the building as follows:
- During construction meet or exceed the recommended Control Measures of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guidelines for Occupied Buildings under Construction, 1995, Chapter 3.
- Protect stored on-site or installed absorptive materials from moisture damage.

If permanently installed air handlers are used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 shall be used at each return air grille, as determined by ASHRAE 52.2-1999. Replace all filtration media immediately prior to occupancy.

SUBMITTALS

Include descriptive narrative in SAM Checklist including IAQ Management Plan and detailed photographic evidence.

TECHNOLOGY/STRATEGY

Adopt an IAQ management plan to protect the HVAC system during construction, control pollutant sources and interrupt contamination pathways. Sequence the installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile and gypsum wallboard. Coordinate SAM Credits 6.5 and 6.7 to determine the appropriate specifications and schedules for filtration media.

If possible, avoid using permanently installed air handlers for temporary heating/cooling during construction. Consult the LEED 2009 Green Building and Construction Reference Guide for more detailed information on how to ensure the well-being of construction workers and building occupants if permanently installed air handlers must be used during construction.

Standard Practice

None.

Recommended Practice

- During construction meet or exceed the recommended Design Approaches of the Sheet Metal and Air Conditioning National Contractors Association (SMACNA) IAQ Guideline for Occupied Buildings under Construction, 1995, Chapter 3.
- Protect stored on-site or installed absorptive materials from moisture damage.
- Do not operate air-handling equipment during construction.
- Sequence the installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile and gypsum wallboard.
- Minimize the use of air handlers during construction. If air handlers are used during construction, filtration media with a Minimum Efficiency Reporting Value (MERV) of 8 must be used at each return air grill, as determined by ASHRAE 52.2-1999.

Best Available Practice

None.

CASE STUDY

Construction Mitigation Program
Oakland International Airport - Oakland, California

During the airport's Terminal Improvement Program, a number of mitigation efforts are being implemented to reduce the construction impact on contractors, tenants, and travelers. A major component of these efforts involves a comprehensive checklist enforcing compliance with these practices. This checklist includes the evaluation of existing measures, the identification of measures that may require revision, and development of recommendations for corrective action.

http://www.oaklandairport.com/noise/environmental_construct.shtml

6.0 INDOOR ENVIRONMENTAL QUALITY

6.5.2 Construction IAQ Management Plan: Before Occupancy

1 Point

INTENT

Reduce indoor air quality problems resulting from the construction/renovation process in order to help sustain the comfort and well-being of construction workers and building occupants.

REQUIREMENTS

OPTION 1 — Flush-Out

After construction ends, prior to occupancy and with all interior finishes installed, perform a building flush-out by supplying a total air volume of 14,000 cu.ft. of outdoor air per sq.ft. of floor area while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60%.

OR

If occupancy is desired prior to completion of the flush-out, the space may be occupied following delivery of a minimum of 3,500 cu.ft. of outdoor air per sq.ft. of floor area to the space. Once a space is occupied, it shall be ventilated at a minimum rate of 0.30 cfm/sq.ft. of outside air or the design minimum outside air rate determined section 5.1, whichever is greater. During each day of the flush-out period, ventilation shall begin a minimum of three hours prior to occupancy and continue during occupancy. These conditions shall be maintained until a total of 14,000 cu.ft./sq.ft. of outside air has been delivered to the space.

Note: All finishes must be installed prior to flush-out.

OR

OPTION 2 — Air Testing

- Conduct baseline IAQ testing, after construction ends and prior to occupancy, using testing protocols consistent with the United States Environmental Protection Agency Compendium of Methods for the Determination of Air Pollutants in Indoor Air and as additionally detailed in the LEED Reference Guide for Green Building Design and Construction, 2009 Edition.

- Demonstrate that the contaminant maximum concentrations listed below are not exceeded.

CONTAMINANT	**MAXIMUM CONCENTRATION**
Formaldehyde	50 parts per billion
Particulates (PM10)	50 micrograms per cubic meter
Total Volatile Organic Compounds (TVOC)	500 micrograms per cubic meter
4-Phenylcyclohexene (4-PCH)*	6.5 micrograms per cubic meter
Carbon Monoxide (CO)	9 part per million and no greater than 2 parts per million above outdoor levels

* This test is only required if carpets and fabrics with styrene butadiene rubber (SBR) latex backing material are installed as part of the base building systems.

- For each sampling point where the maximum concentration limits are exceeded conduct additional flush-out with outside air and retest the specific parameter(s) exceeded to indicate the requirements are achieved. Repeat procedure until all requirements have been met. When retesting non-complying building areas, take samples from the same locations as in the first test.

- The air sample testing shall be conducted as follows:

  1) All measurements shall be conducted prior to occupancy, but during normal occupied hours, and with the building ventilation system starting at the normal daily start time and operated at the minimum outside air flow rate for the occupied mode throughout the test.

  2) All interior finishes must be installed, including but not limited to millwork, doors, paint, carpet and acoustic tiles. Movable furnishings such as workstations and partitions should be in place for the testing, although it is not required.

  3) The number of sampling locations will depend on the size of the building and number of ventilation systems. For each portion of the building served by a separate ventilation system, the number of sampling points shall not be less than one per 25,000 sq.ft., or for each contiguous floor area, whichever is larger, and include areas with the least ventilation and greatest presumed source strength.

  4) Air samples must be collected between 3 feet and 6 feet from the floor to represent the breathing zone of occupants, and over a minimum 4-hour period.

SUBMITTALS

Include descriptive narrative in SAM Checklist including IAQ Management Plan and detailed photographic evidence.

TECHNOLOGY/STRATEGY

Prior to occupancy, perform a building flush-out or test the air contaminant levels in the building. The flush-out is often used where occupancy is not required immediately upon substantial completion of construction. IAQ testing can minimize schedule impacts but may be more costly. Coordinate SAM Credits 6.5 and 6.7 to determine the appropriate specifications and schedules for filtration media.

The intent of this credit is to eliminate indoor air quality problems that occur as a result of construction. Architectural finishes used in tenant build-outs constitute a significant source of air pollutants, and must be addressed in order to qualify for this credit.

Standard Practice

None.

Recommended Practice

- Replace all filtration media immediately prior to occupancy. Filtration media shall have a Minimum Efficiency Reporting Value (MERV) of 13, as determined by ASHRAE 52.2-1999 for media installed at the end of construction.

Best Available Practice

- After construction ends and prior to occupancy, conduct a two-week building flush out with 100% fresh air.

6.0 INDOOR ENVIRONMENTAL QUALITY

6.6.1 Low-Emitting Materials: Adhesives and Sealants

1 Point

INTENT

Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

REQUIREMENTS

All adhesives and sealants used on the interior of the building (i.e., inside of the weatherproofing system and applied on-site) must comply with the following requirements as applicable to the project scope:

- Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits are listed in the table below and correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

Architectural Applications	**VOC Limit [g/L less water]**
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50
Wood Flooring Adhesives	100
Rubber Floor Adhesives	60
Subfloor Adhesives	50
Ceramic Tile Adhesives	65
VCT & Asphalt Adhesives	50
Drywall & Panel Adhesives	50
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100

Substrate Specific Applications	**VOC Limit [g/L less water]**
Metal to Metal	30
Plastic Foams	50
Porous Material (except wood)	50
Wood	30
Fiberglass	80

Sealant Primers	**VOC Limit [g/L less water]**
Architectural Non Porous	250
Architectural Porous	775
Other	750

Specialty Applications	**VOC Limit [g/L less water]**
PVC Welding	510
CPVC Welding	490
ABS Welding	325
Plastic Cement Welding	250
Adhesive Primer for Plastic	550
Contact Adhesives	80
Special Purpose Contact Adhesive	250
Structural Wood Member Adhesive	140
Sheet Applied Rubber Lining Operations	850
Top & Trim Adhesive	250

Sealants VOC Limit	**VOC Limit [g/L less water]**
Architectural	250
Nonmembrane Roof	300
Roadway	250
Single-Ply Roof Membrane	450
Other	420

- Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000.

Aerosol Adhesives:	**VOC weight [g/L minus water]**
General purpose mist spray	65% VOCs by weight
General purpose web spray	55% VOCs by weight
Special purpose aerosol adhesives (all types)	70% VOCs by weight

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Specify low-VOC materials in construction documents. Ensure that VOC limits are clearly stated in each section of the specifications where adhesives and sealants are addressed. Common products to evaluate include: general construction adhesives, flooring adhesives, fire-stopping sealants, caulking, duct sealants, plumbing adhesives, and cove base adhesives. Review product cut sheets, MSD sheets, signed attestations or other official literature from the manufacturer clearly identifying the VOC contents or compliance with referenced standards.

Standard Practice

- Low VOC materials are becoming more common in the market place.

Recommended Practice

- Specify Low-VOC adhesives and sealants.
- Consider the use of air scrubbers during the installation and curing of adhesives and sealers when used inside the passenger terminal or other public spaces.

Best Available Practice

- Specify that all shop finished material meet the VOC emission requirements. Materials to consider are:
    - Primed steel
    - Finished metals including aluminum
    - Finished millwork
    - Finished steel and wood doors and windows

CASE STUDY

Terminal A
Boston Logan International Airport - Boston, Massachusetts

In addition to the implementation of a water-efficient plumbing and irrigation system and energy-efficient electric light, specific measures were taken to control the amount and quality of construction contaminates from negatively impacting the interior of the building. Adhesives, sealants, paints and carpets were specified to have very limited or no volatile organic compounds.

http://www.facilitiesnet.com/facilitiesmanagement/article/Logan-Airport-Becomes-Home-to-Worlds-First-LEEDCertified-Terminal--4962

6.0 INDOOR ENVIRONMENTAL QUALITY

6.6.2 Low-Emitting Materials: Paints and Coatings

1 Point

INTENT

Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

REQUIREMENTS

Paints and coatings used on the interior of the building (i.e., inside of the weatherproofing system and applied on-site) must comply with the following criteria as applicable to the project scope:

- Architectural paints, coatings and primers applied to interior walls and ceilings must not exceed the VOC content limits established in Green Seal Standard GS-11, Paints, First Edition, May 20, 1993.
  - Flats: 50 g/L
  - Non-Flats: 150 g/L

- Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates must not exceed the VOC content limit of 250 g/L established in Green Seal Standard GC-03, Anti-Corrosive Paints, Second Edition, January 7, 1997.

- Clear wood finishes, floor coatings, stains, and shellacs applied to interior elements must not exceed the VOC content limits established in South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004.
  - Clear wood finishes: varnish 350 g/L; lacquer 550 g/L
  - Floor coatings: 100 g/L
  - Sealers: waterproofing sealers 250 g/L; sanding sealers 275 g/L; all other sealers 200 g/L
  - Shellacs: Clear 730 g/L; pigmented 550 g/L
  - Stains: 250 g/L

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Specify low-VOC paints and coatings in construction documents. Ensure that VOC limits are clearly stated in each section of the specifications where paints and coatings are addressed. Track the VOC content of all interior paints and coatings during construction.

Standard Practice

None.

Recommended Practice

- Specify Low-VOC field applied paints and coating.
- Consider the use of air scrubbers during the installation and curing of paints and coatings when used inside the terminal or other public spaces.

Best Available Practice

- Specify that all shop finished material meet the VOC emission requirements. Materials to consider are:
    - Primed steel
    - Finished metals including aluminum
    - Finished millwork
    - Finished steel and wood doors and windows

6.0 INDOOR ENVIRONMENTAL QUALITY

6.6.3 Low-Emitting Materials: Flooring Systems

1 Point

INTENT

Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

REQUIREMENTS

All flooring must comply with the following as applicable to the project scope:

- All carpet installed in the building interior shall meet the testing and product requirements of the Carpet and Rug Institute's Green Label Plus program.
- All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label program.
- All carpet adhesive shall meet the requirements of SAM Credit 6.6.1: VOC limit of 50 g/L.
- All of the hard surface flooring must be certified as compliant with the FloorScore® standard (current as of the date of this Rating System, or more stringent version) by an independent third party. Flooring products covered by FloorScore® include vinyl, linoleum, laminate flooring, wood flooring, ceramic flooring, rubber flooring, wall base, and associated sundries.
- An alternative compliance path using FloorScore® is acceptable for credit achievement according to the following stipulations. 100% of the non-carpet finished flooring must be FloorScore® certified, and it must comprise, at minimum, at least 25% of the finished floor area. Potential examples of unfinished flooring include floors in mechanical rooms, electrical rooms, and elevator service rooms.
- Concrete, wood, bamboo, and cork floor finishes such as sealer, stain and finish must meet the requirements of South Coast Air Quality Management District (SCAQMD) Rule 1113, Architectural Coatings, rules in effect on January 1, 2004. VOC limits are listed below.
    - Clear wood finishes: varnish 350 g/L; lacquer 550 g/L
    - Floor coatings: 100 g/L
    - Sealers: waterproofing sealers 250 g/L; sanding sealers 275 g/L; all other sealers 200 g/L
    - Shellacs: Clear 730 g/L; pigmented 550 g/L
    - Stains: 250 g/L

- Tile setting adhesives and grout must meet South Coast Air Quality Management District (SCAQMD) Rule #1168. VOC limits are listed below and correspond to an effective date of July 1, 2005 and rule amendment date of January 7, 2005.

  - Ceramic tile adhesive: 65 g/L
  - Grout and mortar: 250 g/L

All flooring products will meet the testing and product requirements of the California Department of Health Services Standard Practice for The Testing Of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers, including 2004 Addenda.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Clearly specify requirements for product testing and/or certification in the construction documents. Select products that are either certified under the Green Label Plus program or for which testing has been done by qualified independent laboratories in accordance with the appropriate requirements.

The Green Label Plus program for carpets and its associated VOC emission criteria in micrograms per square meter per hour, along with information on testing method and sample collection developed by the Carpet & Rug Institute (CRI) in coordination with California's Sustainable Building Task Force and the California Department of Health Services (DHS), are described in Section 9, Acceptable Emissions Testing for Carpet, DHS Standard Practice CA/DHS/EHLB/R-174, dated 07/15/04. This document is available at:

www.dhs.ca.gov/ps/deodc/ehlb/iaq/VOCS/Section01350_7_15_2004_FINAL_PLUS_ADDENDUM-2004-01.pdf

(also published as Section 01350 Section 9 [dated 2004] by the Collaborative for High Performance Schools [www.chps.net]).

FloorScore® is a voluntary, independent certification program that tests and certifies hard surface flooring and associated products for compliance with criteria adopted in California for indoor air emissions of Volatile Organic Compounds (VOCs) with potential health effects. The program uses a small-scale chamber test protocol and incorporates VOC emissions criteria developed by the California Department of Health Services, which are widely known as Section 1350.

Standard Practice

None.

Recommended Practice

- Specify Low-VOC carpet systems. Ensure that VOC limits are clearly stated where carpet systems are addressed. Be attentive to carpet installation requirements.
- Consider the use of air scrubbers during the installation and curing of carpet or hard surface floor system adhesives and sealers when used inside the terminal or other public spaces.

Best Available Practice

- Specify that all shop finished material meet the VOC emission requirements. Materials to consider are:
    - Primed steel
    - Finished metals including aluminum
    - Finished millwork
    - Finished steel and wood doors and windows

6.0 INDOOR ENVIRONMENTAL QUALITY

6.6.4 Low-Emitting Materials: Composite Wood & Agrifiber Products

1 Point

INTENT

Reduce the quantity of indoor air contaminants that are odorous, irritating and/or harmful to the comfort and well-being of installers and occupants.

REQUIREMENTS

Composite wood and agrifiber products used on the interior of the building (defined as inside of the weatherproofing system) shall contain no added urea-formaldehyde resins. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain no added urea-formaldehyde resins.

Composite wood and agrifiber products are defined as: particleboard, medium density fiberboard (MDF), plywood, wheatboard, strawboard, panel substrates and door cores. Materials considered fit-out, furniture, and equipment (FF&E) are not considered base building elements and are not included.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Specify wood and agrifiber products that contain no added urea-formaldehyde resins. Specify laminating adhesives for field and shop applied assemblies that contain no added urea/formaldehyde resins. Review product cut sheets, MSD sheets, signed attestations or other official literature from the manufacturer.

Standard Practice

None.

Recommended Practice

- Specify wood and agrifiber products with no added urea-formaldehyde resins.

Best Available Practice

- Specify that all shop finished material meet the VOC emission requirements. Materials to consider are:
  - Primed steel
  - Finished metals including aluminum
  - Finished millwork
  - Finished steel and wood doors and windows

CASE STUDY

Terminal A – Composite Wood
Boston Logan International Airport - Boston, Massachusetts

During construction of the new terminal, special measures were taken to utilize composite wood materials. These materials helped reduce any adverse effects of the construction and preserve indoor air quality. In addition to wood composite, adhesives, sealants and very low or no Volatile Compounds (VOCs) were built into the specifications of the new terminal.

http://www.massport.com/about/pdf/c_terma_green.pdf

6.0 INDOOR ENVIRONMENTAL QUALITY

6.7 Indoor Chemical & Pollutant Source Control

1 Point

INTENT

Minimize exposure of building occupants to potentially hazardous particulates and chemical pollutants.

REQUIREMENTS

Design to minimize and control pollutant entry into buildings and later cross-contamination of regularly occupied areas:

- Employ permanent entryway systems at least 10 feet long in the primary direction of travel to capture dirt and particulates from entering the building at all entryways that are directly connected to the outdoors. Acceptable entryway systems include permanently installed grates, grilles, or slotted systems that allow for cleaning underneath. Roll-out mats are only acceptable when maintained on a weekly basis by a contracted service organization.
- Sufficiently exhaust each space where hazardous gases or chemicals may be present or used (including garages, housekeeping/laundry areas and copying/printing rooms) to create negative pressure with respect to adjacent spaces with the doors to the room closed. For each of these spaces, provide self-closing doors and deck to deck partitions or a hard lid ceiling. The exhaust rate shall be at least 0.50 cfm/sq.ft., with no air recirculation. The pressure differential with the surrounding spaces shall be at least 5 Pa (0.02 inches of water gauge) on average and 1 Pa (0.004 inches of water) at a minimum when the doors to the rooms are closed.
- In mechanically ventilated buildings, provide regularly occupied areas of the building with new air filtration media prior to occupancy that provides a Minimum Efficiency Reporting Value (MERV) of 13 or better. Filtration should be applied to process both return and outside air that is to be delivered as supply air.
- Provide containment drains plumbed for appropriate disposal of hazardous liquid wastes in places where water and chemical concentrate mixing occurs for laboratory purposes.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Design facility cleaning and maintenance areas with isolated exhaust systems for contaminants. Maintain physical isolation from the rest of the regularly occupied areas of the building. Install permanent architectural entryway systems such as grills or grates to prevent occupant-borne contaminants from entering the building. Install high-level filtration systems in air handling units processing both return air and outside supply air. Ensure that air handling units can accommodate required filter sizes and pressure drops.

Standard Practice

None.

Recommended Practice

- Employ permanent entryway systems (grills, grates, etc.) to capture dirt, particulates, etc. from entering the building at all high volume entryways.
- Where chemical use occurs (including housekeeping areas and copying/printing rooms), provide segregated areas with deck to deck partitions with separate outside exhaust at a rate of at least 0.50 cubic feet per minute per square foot, no air re-circulation and maintaining a negative pressure.
- Provide drains plumbed for appropriate disposal of liquid waste in spaces where water and chemical concentrate mixing occurs.
- Select finish materials and assemblies that resist mold growth.
- Designate central locations in terminal and office buildings for storage of concentrated cleaning chemicals and other pollutant sources.
- Install permanent architectural entryway systems such as grills or grates to prevent occupant-borne contaminants from entering the building.

Best Available Practice

- Design separate exhaust and plumbing systems for rooms or areas with contaminants to achieve physical isolation from the rest of the building.
- Encourage the use of electric vehicle uses in indoor cargo facilities

6.0 INDOOR ENVIRONMENTAL QUALITY

6.8.1 Controllability of Systems: Lighting

1 Point

INTENT

Provide a high level of lighting system control by individual occupants or by specific groups in multi-occupant spaces (e.g. classrooms and conference areas) to promote the productivity, comfort and well-being.

REQUIREMENTS

Provide individual lighting controls for 90% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences.

AND

Provide lighting system controls for all shared multi-occupant spaces to enable lighting adjustment that meets group needs and preferences.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Design the building with occupant controls for lighting. Strategies to consider include lighting controls and task lighting. Integrate lighting systems controllability into the overall lighting design, providing ambient and task lighting while managing the overall energy use of the building.

Standard Practice

None.

Recommended Practice

- Tie lighting in public areas of passenger terminals to flight schedules or use motion-activated lighting.
- Design lighting control systems to take advantage of daylight harvesting to reduce artificial lighting when adequate daylight is available.
- Design terminal areas to provide a variety of levels of light and sound in different areas simultaneously.
- Provide operable windows in areas that are not noise-sensitive, such as cargo buildings.
- Provide task lighting or more light switching zones in office areas.

Best Available Practice

None.

CASE STUDIES

Jeppesen Landside Terminal - Lighting
Denver International Airport - Denver, Colorado

The Jeppesen Terminal at Denver International Airport was designed with energy efficient lighting throughout the building that will contain multi-level lighting, monitoring, and controls, integrated with energy efficient mechanical systems.

http://www.archenergy.com/services/sda/dia/

6.0 INDOOR ENVIRONMENTAL QUALITY

6.8.2 Controllability of Systems: Thermal Comfort

1 Point

INTENT

Provide a high level of thermal comfort system control by individual occupants or by specific groups in multi-occupant spaces (i.e. classrooms or conference areas) to promote the productivity, comfort and well-being of building occupants.

REQUIREMENTS

Provide individual comfort controls for 50% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences. Operable windows can be used in lieu of comfort controls for occupants of areas that are 20 feet inside of and 10 feet to either side of the operable part of the window. The areas of operable window must meet the requirements of ASHRAE 62.1-2007 paragraph 5.1 Natural Ventilation.

AND

Provide comfort system controls for all shared multi-occupant spaces to enable adjustments to suit group needs and preferences.

Conditions for thermal comfort are described in ASHRAE Standard 55-2004 to include the primary factors of air temperature, radiant temperature, air speed and humidity.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Design the building and systems with comfort controls to allow adjustments to suit individual needs or those of groups in shared spaces. ASHRAE Standard 55-2004 identifies the factors of thermal comfort and a process for developing comfort criteria for building spaces that suit the needs of the occupants involved in their daily activities. Control strategies can be developed to expand on the comfort criteria to allow adjustments to suit individual needs and preferences.

These strategies may involve system designs incorporating operable windows, hybrid systems integrating operable windows and mechanical systems, or mechanical systems alone. Individual adjustments may involve individual thermostat controls, local diffusers at floor, desk or overhead levels, or control of individual radiant panels, or other means integrated into the overall building, thermal comfort systems, and energy systems design. In addition, designers should evaluate the closely tied interactions between thermal comfort (as required by ASHRAE Standard 55-2004) and acceptable indoor air quality (as required by ASHRAE Standard 62.1-2007, whether natural or mechanical ventilation).

Standard Practice

None.

Recommended Practice

None.

Best Available Practice

- Provide underfloor air distribution systems with individual diffusers for office spaces.

6.0 INDOOR ENVIRONMENTAL QUALITY

6.9.1 Thermal Comfort: Design

1 Point

INTENT

Provide a comfortable thermal environment that supports the productivity and well-being of building occupants.

REQUIREMENTS

Design HVAC systems and the building envelope to meet the requirements of ASHRAE Standard 55-2004, Thermal Comfort Conditions for Human Occupancy. Demonstrate design compliance in accordance with the Section 6.1.1 Documentation.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

Establish comfort criteria per ASHRAE Standard 55-2004 that support the desired quality and occupant satisfaction with building performance. Design building envelope and systems with the capability to deliver performance to the comfort criteria under expected environmental and use conditions. Evaluate air temperature, radiant temperature, air speed, and relative humidity in an integrated fashion and coordinate these criteria with SAM Credits 6.1, 6.3 and 6.4.

Standard Practice

None.

Recommended Practice

None.

Best Available Practice

- Provide ceiling fans or natural ventilation to increase air movement in cargo spaces.
- Provide humidification in HVAC systems serving office and terminal areas.
- For spaces with humidification, install humidistats in addition to thermostats.

CASE STUDY

Terminal 2
San Francisco International Airport - San Francisco, California

Terminal 2's design at San Francisco International Airport incorporates a number of measures to reduce the carbon footprint of the facility. The LEED certified building is designed to improve indoor air quality and reduce energy consumption. The design features a waste reduction program and a reclaimed water reuse program.

http://flysfo.com/web/page/about/T2/sustainability/

6.0 INDOOR ENVIRONMENTAL QUALITY

6.9.2 Thermal Comfort, Verification

1 Point (awarded only if credit is earned toward SAM Credit 6.9.1)

INTENT

Provide for the assessment of building thermal comfort over time.

REQUIREMENTS

Provide a permanent monitoring system to ensure building performance to the desired comfort criteria as determined by SAM Credit 6.9.1, Thermal Comfort: Design.

Agree to implement a thermal comfort survey of building occupants within a period of six to 18 months after occupancy. This survey should collect anonymous responses about thermal comfort in the building including an assessment of overall satisfaction with thermal performance and identification of thermal comfort-related problems. Agree to develop a plan for corrective action if the survey results indicate that more than 20% of occupants are dissatisfied with thermal comfort in the building. This plan should include measurement of relevant environmental variables in problem areas in accordance with ASHRAE Standard 55-2004.

Thermal Comfort: Verification, is contingent on the successful completion and award of the credit -Thermal Comfort: Design.

SUBMITTALS

Include descriptive narrative in SAM Checklist.

TECHNOLOGY/STRATEGY

ASHRAE Standard 55-2004 provides guidance for establishing thermal comfort criteria and the documentation and validation of building performance to the criteria. While the standard is not intended for purposes of continuous monitoring and maintenance of the thermal environment, the principles expressed in the standard provide a basis for design of monitoring and corrective action systems.

Standard Practice

None.

Recommended Practice

None.

Best Available Practice

None.

CASE STUDY

Terminal 3
Beijing Capital International Airport - Beijing, China

The newly-built Terminal 3 at Beijing Capital International Airport was developed as a sustainable design with minimal energy consumption and integrated environmental control systems. A maximized use of shading was incorporated into the design to reduce the need for cooling, and natural daylight was combined with artificial light throughout the terminal.

http://www.arup.com/china/project.cfm?pageid=11321

6.0 INDOOR ENVIRONMENTAL QUALITY

6.10.1 Daylight & Views, Daylight 75% of Spaces

1 Point

INTENT

Provide for the building occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

REQUIREMENTS

OPTION 1 — CALCULATION

Achieve a minimum glazing factor of 2% in a minimum of 75% of all regularly occupied areas. The glazing factor is calculated as follows:

$$\textbf{Glazing Factor} = \frac{\textbf{Window Area (SF)}}{\textbf{Floor Area (SF)}} \times \textbf{Window Geometry Factor} \times \frac{\textbf{Actual } T_{vis}}{\textbf{Minimum } T_{vis}} \times \textbf{Window Height Factor}$$

OR

OPTION 2 — SIMULATION

Demonstrate, through computer simulation, that a minimum daylight illumination level of 25 footcandles has been achieved in a minimum of 75% of all regularly occupied areas. Modeling must demonstrate 25 horizontal footcandles under clear sky conditions, at noon, on the equinox, at 30 inches above the floor.

OR

OPTION 3 — MEASUREMENT

Demonstrate, through records of indoor light measurements, that a minimum daylight illumination level of 25 footcandles has been achieved in at least 75% of all regularly occupied areas. Measurements must be taken on a 10-foot grid for all occupied spaces and must be recorded on building floor plans. Measurements must be taken under clear sky conditions, at 30" above the floor, on or about solar noon on the equinox.

OR

OPTION 4

Any of the above calculation methods may be combined to document the minimum daylight illumination in at least 75% of all regularly occupied spaces. The different methods used in each space must be clearly recorded on at minimum a 10' grid on all building plans.

In all cases, only the square footage associated with the portions of rooms or spaces meeting the minimum illumination requirements can be applied towards the 75% of total area calculation required to qualify for this credit. In all cases, provide daylight redirection and/or glare control devices to avoid high-contrast situations that could impede visual tasks. Exceptions for areas where tasks would be hindered by the use of daylight will be considered on their merits.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Design the building to maximize interior daylighting. Strategies to consider include building orientation, shallow floor plates, increased building perimeter, exterior and interior permanent shading devices, high performance glazing and automatic photocell-based controls. Predict daylight factors via manual calculations or model daylighting strategies with a physical or computer model to assess footcandle levels and daylight factors achieved.

Modeling must demonstrate 25 horizontal footcandles under clear sky conditions, at noon, on the equinox, at 30 in. above the floor. Any portion of a room achieving the requirements can qualify for this credit.

Standard Practice

- Evaluate building design to maximize interior daylight. Consider:
    - Building orientation
    - Shallow floor plates
    - Increased building perimeter
    - Floor-to-ceiling heights
    - Ceiling configurations
- Design the building to maximize view opportunities.

Recommended Practice

- Provide sky or clerestory lighting as appropriate in cargo and passenger terminal facilities.
- Coordinate daylight strategy with BAS and lighting control system.

Best Available Practice

- Provide exterior and interior permanent shading devices
- Provide spectrally selective glazing to maximize daylight while minimizing heat gain.
- Provide photo-integrated light sensors to dim artificial lights.

- Predict daylighting via calculations or model daylighting strategies to assess footcandle levels and daylight factors achieved.

CASE STUDY

Humphrey Terminal Design
Metropolitan Airports Commission - Minneapolis, Minnesota

Metropolitan Airports Commission, the governing authority for Minneapolis – St. Paul International Airport, has implemented various sustainable strategies for the development of green buildings at the airport. The new Humphrey Terminal optimizes HVAC efficiency, maximizes day-lighting and uses low-flow & automatic fixtures in all restrooms. Construction materials were also recycled and reused.

http://www.metroairports.org/mac/docs/Star8page.pdf

6.0 INDOOR ENVIRONMENTAL QUALITY

6.10.2 Daylight & Views: Views for 90% of Spaces

1 Point

INTENT

Provide for the building occupants a connection between indoor spaces and the outdoors through the introduction of daylight and views into the regularly occupied areas of the building.

REQUIREMENTS

Achieve direct line of sight to the outdoor environment via vision glazing between 30" and 90" above finish floor for building occupants in 90% of all regularly occupied areas. Determine the area with direct line of sight by totaling the regularly occupied square footage that meets the following criteria:

- In plan view, the area is within sight lines drawn from perimeter vision glazing.
- In section view, a direct sight line can be drawn from the area to perimeter vision glazing.

The line of sight may be drawn through interior glazing. For private offices, the entire square footage of the office can be counted if 75% or more of the area has direct line of sight to perimeter vision glazing. For multi-occupant spaces, the actual square footage with direct line of sight to perimeter vision glazing is counted.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist.

TECHNOLOGY/STRATEGY

Design the space to maximize daylighting and view opportunities. Strategies to consider include lower partition heights, interior shading devices, interior glazing, and automatic photocell-based controls.

Standard Practice

- Evaluate building design to maximize interior daylight. Consider:
    - Building orientation
    - Shallow floor plates
    - Increased building perimeter
    - Floor-to-ceiling heights
    - Ceiling configurations
- Design the building to maximize view opportunities.

Recommended Practice

- Provide sky or clerestory lighting as appropriate in cargo and passengers terminal facilities.
- Coordinate daylight strategy with BAS and lighting control system.

Best Available Practice

- Provide exterior and interior permanent shading devices
- Provide spectrally selective glazing to maximize daylight while minimizing heat gain.
- Provide photo-integrated light sensors to dim artificial lights.
- Predict daylighting via calculations or model daylighting strategies to assess footcandle levels and daylight factors achieved.

CASE STUDIES

Colonel H. Cook Terminal
Indianapolis International Airport - Indianapolis, Indiana

The new terminal building at Indianapolis International Airport contains high glass walls and a sweeping roof, where very little heat is transferred from the sun to the inside of the building. During the daylight hours, very little artificial light is required to light the terminal, all leading to energy conservation and cost reduction. The terminal's high ceiling and high-performance curtain walls minimize solar loads, and a radiantly chilled/heated granite floor help maintain temperature by cooling from the ground up and allowing the warm air to naturally gather at the top of the structure.

http://www.triplepundit.com/pages/indianapolis-opens-first-sustainable-pos.php

6.0 INDOOR ENVIRONMENTAL QUALITY

6.11 Noise Transmission

1 Point

INTENT

Limit noise levels in noise-sensitive, occupied spaces such as passenger terminals and offices to increase employee productivity and passenger comfort.

REQUIREMENTS

Maintain predicted noise levels in all passenger terminal areas to a Noise Criteria (NC) below 40 and offices and conference rooms below NC30.

OR

Specify exterior glazing with a Sound Transmission Class (STC) of 35 or better per ASTM E413 and ASTM E1332 for all regularly occupied spaces.

SUBMITTALS

Include descriptive narrative in SAM Checklist and show calculations indicating that NC levels are met in all critical areas or submit product data sheets for exterior glazing meeting the STC requirements.

TECHNOLOGY/STRATEGY

There are a number of design techniques that can influence the acoustical quality of indoor spaces. Generally, these can include improved glazing and partitions or less costly design practices such as building and furniture orientation.

Standard Practice

- Design spaces in such a way as to orient noise sensitive areas away from major noise sources.
- Use sound dampening glazing and wall partitions.
- Locate copy machines and printers in separate rooms.

Recommended Practice

- For office environments, specify acoustical ceiling with an appropriate noise reduction coefficient to meet the requirements of this credit.
- Choose cubicle partitions that are at least 5 feet tall to provide a sound barrier to workstation occupants.
- Insulate wall cavities for noise sensitive spaces and extension of partition walls to the structural deck.

Best Available Practice

Specify laminated glazing to reduce noise transmission for normally occupied spaces.

SOURCES

"Silence is Golden: Controlling Sound in Non-Residential Structures" AIA/Architectural Record, Continuing Education Series, May 2007.
http://archrecord.construction.com/resources/conteduc/archives/0507marvin-1.asp

Paradis, Richard. "Acoustic Comfort" Whole Building Design Guide, October 27, 2008.
http://www.wbdg.org/resources/acoustic.php

7.0 CONSTRUCTION PRACTICES

7.1 Prerequisite 1 – Clean Fuel Construction Vehicles

Required

NOTE
Due to advancements in available fuels and technologies, as well as changes in regulation this section is currently applicable, but under revision.

INTENT

Minimize air quality impacts during construction.

REQUIREMENTS

All projects must comply with OMP Specification Section 01111 – Construction Air Quality. The requirements are summarized below. For additional detail, refer to the OMP Specification.

The requirements for all off-road vehicles that are on the project site for more than 14 consecutive days are:

- All off-road construction vehicles over 50 hp must use ultra-low sulfur diesel (ULSD) fuel conforming to ASTM D975, D5453, D6078, and D613.
- All off-road diesel-powered vehicles and equipment (both mobile and stationary) over 50 hp, must install and or retrofit with emissions control devices that will reduce emissions prior to utilization of said equipment on the project. The Retrofit Emission Control Devices must consist of diesel oxidation catalysts, diesel particulate filters or similar retrofit equipment control technology that:
    - is included on the EPA Verified Retrofit Technology List (http://www.epa.gov/otaq/retrofit/retroverifiedlist.htm) or verified by the California Air Resources Board (CARB) (http://www.arb.ca.gov/diesel/verdev/verdev.htm) or
    - is verified by EPA or represented by the manufacturer in writing, to provide a minimum emissions reduction of 20% PM, 20% CO, and 40% HC when used with Ultra Low Sulfur Diesel fuel.

- This requirement applies unless the vehicle or equipment is either EPA Tier 2 Rule compliant or meets the horsepower/model year defined in the table below:

Horsepower Range	Model Year (or newer)
50-99	2004
100-299	2003
300-599	2001
600-749	2002
750 and up	2006

The requirements for all on-road vehicles that access the project site more than 5 calendar days per month.

- All on-road construction vehicles over 50 hp must use ultra-low sulfur diesel (ULSD) fuel conforming to ASTM D975, D5453, D6078, and D613.

All diesel powered vehicles meet the idling restrictions described in the specification section. Specifically, vehicles must not idle for more than five consecutive minutes in a 60-minute period when the equipment is not in use except for certain situations, such as traffic conditions or during equipment repairs.

SUBMITTALS

The submittal requirements for compliance with Specification 01111 – Construction Air Quality and to meet this prerequisite are summarized in the table below:

Submittal	Specification Paragraph Reference	Description	Due Date
Contractor/Subcontractor Equipment Verification Report	3.01.B	Contractor certifies that vehicles listed on *Contractor Equipment Listing* are true and accurate and is in compliance with EPA rules.	Prior to start of construction.
Contractor Equipment Listing	3.01.B	Gives a list of all vehicles to be used by Contractor that will be on the Project site and subject to the Fuel Use Requirements in 2.01.	Prior to start of construction.
Contractor Monthly Fuel Usage Summary Report	3.01.A	The form tracks monthly fuel usage for all construction vehicles.	Monthly
Contractor Annual Fuel Usage Summary Report	3.01.A	The form tracks annual fuel usage for all construction vehicles in a calendar year (Jan – Dec).	Annual

Submittal	Specification Paragraph Reference	Description	Due Date
Equipment Tracking Form	3.01.B	Used when new equipment is brought to the project site or old equipment is replaced. Track changes to the *Contractor Equipment Listing* with this form.	As needed

TECHNOLOGY/STRATEGY

Standard Practice

The OMP currently requires that all off-road construction vehicles over 50 hp use ultra-low sulfur diesel (ULSD) fuel and restrict idling times. In addition, all contractors are required to report fuel usage on a monthly basis. All projects are required to include Specification 01111 – Construction Air Quality in their contract documents.

Recommended Practice

Contractors are encouraged to identify and incorporate any other measures that may assist in reducing air quality emissions as a result of construction. For example, many cleaner vehicle options now exist for employee shuttle buses and Light Duty Vehicles (LDVs) including compressed natural gas (CNG), hybrid (fuel/electric), flex fuel, and demand on displacement. The availability of cleaner vehicle options is anticipated to expand over time and over the course of the Project. Contractors working on the Project are strongly encouraged to consider these options when making purchase decisions.

Best Available Practice

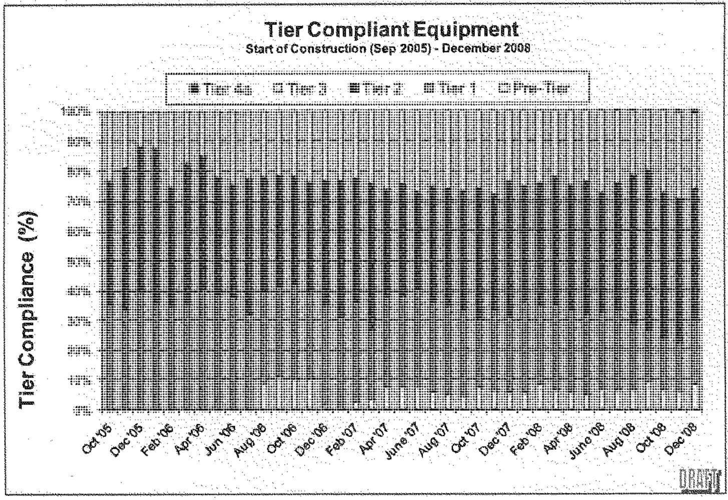
None.

CASE STUDY

Ultra Low Sulfur Diesel Fuel Mandate
Chicago O'Hare Modernization Program - Chicago, Illinois

When the O'Hare Modernization Program (OMP) construction began in September 2005, several years before the EPA was mandating the use of ULSD fuel, the OMP made it a priority to minimize the air quality impacts of such a large construction project. At the time, the availability and cost of the specialized fuel and emissions control equipment caused concern to program officials and contractors alike. However, because of the size and duration of the construction activities, in addition to the need to meet EPA standards by 2010, the program may have bolstered the market for ULSD and the newer, cleaner burning construction. As of the end of 2008, there have been as many as 200 to 300 pieces of diesel powered equipment in use on the airport.

In 2008, approximately 70% of all equipment met Tier 2 emission standards or better. The tier compliance is an emission based standard set by EPA. The higher the tier level the more stringent the emissions will be from the equipment. As of late 2008, Tier 4a compliant vehicles were starting to be used.



7.0 CONSTRUCTION PRACTICES

7.2 Prerequisite 2 – Construction Equipment Maintenance

Required

INTENT

Minimize the environmental impact of construction equipment maintenance activities.

REQUIREMENTS

Follow the requirements of the CDA BMP Manual.

SUBMITTALS

For the SAM Design Checklist, indicate the location in the contract documents where this is required.

For the SAM Construction Checklist, the contractor must indicate that all relevant BMPs were implemented.

TECHNOLOGY/STRATEGY

By requiring contractors to comply with the CDA BMP Manual, it is anticipated that the impacts due to construction equipment maintenance activities will be reduced. The BMPs include procedures for vehicle washing, maintenance, fueling, chemical storage, and spill control.

Standard Practice

Relevant BMPs (from CDA BMP Manual):

- 001 – Equipment Vehicle Washing Restrictions
- 002 – Equipment Vehicle Fueling Controls
- 003 – Equipment Vehicle Maintenance Requirements
- 011 – Above Ground Storage Tank Equipment Requirements/Spills
- 012 – Mobile Tank Trucks (petroleum) Requirements
- 013 – Chemical Handling/Storage Requirements
- 014 – Drum Storage Procedures
- 015 – Battery Storage Procedures
- 017 – Truck Loading/Unloading Procedures/Spill Control
- 018 – Spill Control Kits and Spill Response
- 019 – Good Housekeeping Procedures/Waste Storage
- 020 – Storm Drain Protection/Identification

Recommended Practice

None.

Best Available Practice

None.

7.0 CONSTRUCTION PRACTICES

7.3 Construction Activity Pollution Prevention

Identical to SAM Credit 2.1

No Points – Required for all Construction Projects

INTENT

This credit is identical to SAM Credit 2.1 and is referenced under this section to emphasize that it is a sustainable construction prerequisite. Points will not be awarded under this credit but only shown as a reference. Requirements for this credit will be tracked under SAM Credit 2.1 only.

7.4 Systems Commissioning

Identical to SAM Credit 4.1

No Points – Required for Occupied and Unoccupied Buildings, if applicable

INTENT

This credit is identical to SAM Credit 4.1 and is referenced under this section to emphasize that it is a sustainable construction prerequisite. Points will not be awarded under this credit but only shown as a reference. Requirements for this credit will be tracked under SAM Credit 4.1 only.

7.5 Construction Waste Management

Identical to SAM Credit 5.3

No Points – Points awarded under SAM Credit 5.3

INTENT

This credit is identical to SAM Credit 5.3 and is referenced under this section to emphasize that it is a sustainable construction credit. Points will not be awarded under this credit but only shown as a reference. Requirements for this credit will be tracked under SAM Credit 5.3 only.

7.6 Construction IAQ Management Plan

Identical to SAM Credit 6.5

No Points – Points awarded under SAM Credit 6.5

INTENT

This credit is identical to SAM Credit 6.5 and is referenced under this section to emphasize that it is a sustainable construction credit. Points will not be awarded under this credit but only shown as a reference. Requirements for this credit will be tracked under SAM Credit 6.5 only.

7.0 CONSTRUCTION PRACTICES

7.7 Low Emission Construction Vehicles

1 Point

INTENT

Minimize air quality impacts during construction.

REQUIREMENTS

In addition to complying with the prerequisite SAM Credit 7.1, a point is earned if 50% of all off-road vehicles over 50 hp on the project site for more than 14 consecutive days are EPA Tier 3 compliant or better.

Exemplary Performance

An additional point may be claimed under 8.0 Innovation in Design/Construction if 25% of the off-road vehicles over 50 hp that are on the project site for more than 14 consecutive days are EPA Tier 4a compliant.

SUBMITTALS

Submittal requirements are per OMP Specification 01111 – Construction Air Quality.

TECHNOLOGY/STRATEGY

Standard Practice

See Standard Practice under SAM Credit 7.1.

Recommended Practice

In addition to the recommendations in SAM Credit 7.1, the contractor is encouraged to use equipment in its existing fleet that meets these guidelines.

Best Available Practice

In addition to the recommendations in SAM Credit 7.1, the contractor is encouraged to purchase new equipment or retrofit existing equipment to meet these guidelines.

Consider use of:

- Biodiesel (use regionally derived biofuels)
- Other regionally preferred alternative fuels
- Diesel-electric hybrid vehicles
- Where approved and appropriate, consider the use of Warm Mix Asphalt (WMA) for paving, which reduces energy usage and emissions. Also see SAM Credit 5.5.
- GPS for optimizing haul routes and work activities
- Stricter idling controls, including use of idling restrictors
- Newest technology equipment and retrofits.

7.0 CONSTRUCTION PRACTICES

7.8.1 Alternative Transportation During Construction, Staging Area

1 Point

INTENT

Reduce emissions due to construction vehicles by minimizing the amount of traffic to the construction site.

REQUIREMENTS

To meet this credit each project must have a staging area where employees congregate prior to entering the project site AND use multiple occupancy vehicles to access the project site from the centralized staging area.

SUBMITTALS

Although not required for the SAM Design Checklist, a staging area, with contractor trailer, should be included in the design drawings.

For the SAM Construction Checklist, the contractor must state that the staging area, with contractor trailer, was present and list or describe how employees accessed the project site, e.g. pooled in trucks or shuttle bus.

TECHNOLOGY/STRATEGY

Standard Practice

Most projects typically use heavier duty vehicles such as pick-up trucks or SUVs to provide workers with access to the project site. In some cases, for larger projects, buses are used.

Recommended Practice

Establish procedures and make vehicles available for employee car pooling to the project site. For maximum benefit, shuttle buses or vans are preferred over lower occupancy vehicles such as pick-up trucks.

Best Available Practice

Use fuel-efficient vehicles for car pooling employees to the project site.

7.0 CONSTRUCTION PRACTICES

7.8.2 Alternative Transportation During Construction, Low Emitting & Fuel-Efficient Vehicles, 10%

1 Point

INTENT

Reduce emissions from on-road construction vehicles (examples include foreman pickups or shuttle buses).

REQUIREMENTS

The contractor must use fuel efficient and low emitting vehicles for at least 10% of all on-road, contractor-owned construction vehicles that access the project site more than five calendar days per month. To meet this requirement, the vehicles must have an Air Pollution Score or a Greenhouse Gas Score of 6 or greater according to the EPA Green Vehicle Guide. A partial list of heavier duty vehicles (pick-ups and SUVs) for the 2008 model year that meet these requirements are shown below for reference:

Vehicle Make/Model (Type)	Engine/Transmission/Fuel	Air Pollution Score	Greenhouse Gas Score
GMC Sierra 15 (Pick-Up)	5.3L/Auto 4WD/Ethanol-Gasoline	7 (Ethanol)	6 (Ethanol)
Chevrolet Silverado 15 (Pick-Up)	5.3L/Auto 4WD/ Ethanol-Gasoline	7 (Ethanol)	6 (Ethanol)
Chevrolet Colorado (Pick-Up)	2.9L/Auto 2WD/Gasoline	7	6
Ford Ranger (Pick-Up)	2.3L/Manual 2WD/Gasoline	6	7
Toyota Highlander Hybrid (SUV)	3.3L/Auto 4WD/Gasoline	8	7
Mercury Mariner Hybrid (SUV)	2.5L/Auto 4WD/Gasoline	8	8
Ford Escape Hybrid (SUV)	2.5L/Auto 2WD/Gasoline	8	8
GMC Yukon 1500XFE (SUV)	5.3L/Auto 2WD/Ethanol-Gasoline	7 (Ethanol)	6 (Ethanol)
Saturn Vue Hybrid (SUV)	2.4L/Auto 2WD/Gasoline	7	8

SUBMITTALS

For the sustainable construction checklist, the contractor must submit a list of its on-road vehicles and identify those which meet the EPA Green Vehicle ratings described above.

TECHNOLOGY/STRATEGY

The ratings are based on the Green Vehicle Guide that is prepared annually by the EPA (www.epa.gov/greenvehicles/Index.do). The Air Pollution Score is based on the government emission standards for which the vehicle was certified to comply with and reflects vehicle tailpipe emissions that contribute to local and regional air pollution, creating problems such as haze, and health issues. This score reflects fuel lifecycle emissions of carbon dioxide (CO2) and other greenhouse gases. The scores are on a scale of 1 to 10 with 10 being the highest rating.

Standard Practice

Some hybrid and flex fuel vehicles have been used by various contractors.

Recommended Practice

Promote the use of vehicles that meet the requirements above for EPA Air Pollution and Greenhouse Gas Scoring system.

Best Available Practice

Consider the use of compressed natural gas (CNG), electric, fuel cell, biodiesel vehicles.

CASE STUDY

Alternative Fuel Technology
Los Angeles World Airports - Los Angeles, California

Both compressed natural gas (CNG) and liquefied natural gas (LNG) are used, along with propane, to power fleet and maintenance-related vehicles at airports throughout the country. About half of the Los Angeles World Airport fleet operates on these fuels. These emission-reducing vehicles include sedans, pickups, shuttle buses, heavy duty trucks, forklifts and sweepers.

http://www.greencar.com/articles/natural-gas-vehicles-burn-cleaner-cheaper.php

7.0 CONSTRUCTION PRACTICES

7.8.3 Alternative Transportation During Construction, Low Emitting & Fuel-Efficient Vehicles, 50%

1 Point

INTENT

Reduce emissions from on-road construction vehicles.

REQUIREMENTS

The contractor must use fuel efficient and low emitting vehicles for at least 50% of all on-road, contractor-owned construction vehicles that access the project site more than five calendar days per month. To meet this requirement, the vehicles must have an Air Pollution Score or a Greenhouse Gas Score of 6 or greater according to the EPA Green Vehicle Guide. A partial list of heavier duty vehicles (pick-ups and SUVs) for the 2008 model year that meet these requirements are shown below for reference:

Vehicle Make/Model (Type)	Engine/Transmission/Fuel	Air Pollution Score	Greenhouse Gas Score
GMC Sierra 15 (Pick-Up)	5.3L/Auto 4WD/Ethanol-Gasoline	7 (Ethanol)	6 (Ethanol)
Chevrolet Silverado 15 (Pick-Up)	5.3L/Auto 4WD/ Ethanol-Gasoline	7 (Ethanol)	6 (Ethanol)
Chevrolet Colorado (Pick-Up)	2.9L/Auto 2WD/Gasoline	7	6
Ford Ranger (Pick-Up)	2.3L/Manual 2WD/Gasoline	6	7
Toyota Highlander Hybrid (SUV)	3.3L/Auto 4WD/Gasoline	8	7
Mercury Mariner Hybrid (SUV)	2.5L/Auto 4WD/Gasoline	8	8
Ford Escape Hybrid (SUV)	2.5L/Auto 2WD/Gasoline	8	8
GMC Yukon 1500XFE (SUV)	5.3L/Auto 2WD/Ethanol-Gasoline	7 (Ethanol)	6 (Ethanol)
Saturn Vue Hybrid (SUV)	2.4L/Auto 2WD/Gasoline	7	8

SUBMITTALS

For the sustainable construction checklist, the contractor must submit a list of its on-road vehicles and identify those which meet the EPA Green Vehicle ratings described above.

TECHNOLOGY/STRATEGY

The ratings are based on the Green Vehicle Guide that is prepared annually by the EPA (www.epa.gov/greenvehicles/Index.do). The Air Pollution Score is based on the government emission standards for which the vehicle was certified to comply with and reflects vehicle tailpipe emissions that contribute to local and regional air pollution, creating problems such as haze, and health issues. This score reflects fuel lifecycle emissions of carbon dioxide (CO2) and other greenhouse gases. The scores are on a scale of 1 to 10 with 10 being the highest rating.

Standard Practice

Some hybrid and flex fuel vehicles have been used by various contractors.

Recommended Practice

Promote the use of vehicles that meet the requirements above for EPA Air Pollution and Greenhouse Gas Scoring system.

Best Available Practice

Consider the use of hybrid diesel-electric, hybrid gasoline-electric, compressed natural gas (CNG), liquefied natural gas (LNG), electric, fuel cell, and biodiesel vehicles.

7.0 CONSTRUCTION PRACTICES

7.9 Construction Materials Conveying

1 Point

INTENT

Reduce emissions from construction activities by minimizing the amount of on-road and off-road vehicle traffic traveling to/from the construction site.

REQUIREMENTS

Use an automatic materials conveyance system as a method for transporting materials to or from a construction site.

SUBMITTALS

For the sustainable construction checklist, the contractor must describe the conveyance system in the narrative.

TECHNOLOGY/STRATEGY

The use of a materials conveyance system not only reduces site traffic but can also aid in logistics, noise reduction, and increased security. The primary focus of a conveyance system will obviously be in those projects in which there is a large area requiring significant grading changes. While it is encouraged that soil be maintained on-site as much as possible, for those case where it is not feasible, a conveyance system would be a potential solution for transport to off-site, on- or near-airport locations.

Standard Practice

Due to the configuration of the airfield and the proximity of the earth stockpiles and sources, there has so far not been a need to use an automatic conveyor system. However, a railroad relocation project was awarded a point under this credit as a result of using the rail line itself to deliver materials for this project.

Recommended Practice

Construct Batch Plants as needed on- or near-site or utilize rail transport where available or appropriate.

Best Available Practice

None.

CASE STUDIES

Recycling and Waste Management Conveyor
Hartsfield-Jackson Atlanta International Airport - Atlanta, Georgia

Hartsfield-Jackson International Airport in Atlanta has developed innovative programs to handle and process demolition waste for reuse in airport construction projects. The airport utilized an overland belt conveyor system that transported 93 percent of the 21.5 million cubic yards of fill necessary for a new runway's construction, resulting in reduced truck trips, emission elimination, and diversion of construction material waste from landfills.

http://aci-na.org/static/entransit/Going%20Green%209-7-07.pdf

Materials Management Program
Oakland International Airport - Oakland, California

As capital improvement and infrastructure programs increase over the next few years, Oakland International Airport, has implemented a comprehensive construction materials management program to reduce the amount of transport and disposal of construction materials and increase recycling and re-use of these materials.

http://www.oaklandairport.com/noise/environmental_construct.shtml

7.0 CONSTRUCTION PRACTICES

7.10 Construction Noise and Acoustical Quality

1 Point

INTENT

Improve the exterior noise quality during construction affecting residential areas or other noise sensitive areas.

REQUIREMENTS

Although the City of Chicago has an environmental noise ordinance (Article XXI – Environmental Noise and Vibration Control), it does not apply to construction or demolition work on public improvements authorized by a government body or agency (City Ordinance 11-4-2835).

The requirements of this credit will only apply to noise disturbances that are adjacent to noise sensitive areas, such as residential or institutional (hospitals, schools, libraries, nursing homes) areas. Noise disturbances are defined as any sound which is audible at a distance of 600 feet from its source or any sound which generates a sound pressure level in the public way exceeding 70 dB(A) when measured 10 feet from the source (City Ordinance 11-4-2710).

To achieve a point under this credit, the following requirements must be met during construction for those sites that are near noise sensitive areas as defined by the Chicago City Ordinance:

Meet the noise restrictions listed in the Chicago City Ordinance (XXI, Part B) which include, but are not limited to, noise from mechanical stationary sources (11-4-2810), loading and unloading operations (11-4-2830), and construction equipment (11-4-2835) during nighttime hours.

OR

Implement a noise abatement or noise mitigation plan that identifies site specific, mechanical, structural or operational measures to reduce noise disturbances in noise sensitive areas adjacent to the project site.

SUBMITTALS

Although not required for the sustainable design checklist, indicate noise sensitive areas on plans to aid contractor in determining the best noise mitigation strategies.

For the sustainable construction checklist, the contractor must indicate that the requirements of the Chicago Environmental Noise Ordinance have been met or submit a noise mitigation plan identifying the measures taken to reduce noise disturbances in the affected areas.

TECHNOLOGY/STRATEGY

The primary paragraph related to construction activities is Chicago City Ordinance 11-4-2835 which basically states that no fuel or electric powered mechanical equipment may be used during the hours of 8:00pm and 8:00am within 600 feet of any residential areas or hospitals. The ordinance further states that public improvements authorized by a government agency, like the

OMP, are not subject to this ordinance, however, a point will be given under this credit for those projects that choose to comply with the ordinance.

There are numerous noise mitigation methods that can be employed some of which are site or equipment specific. The easiest method of noise mitigation is to locate the noise source in an area that is not noise sensitive and to conduct that work during daytime hours, 8:00am to 8:00pm. Where this is not possible, temporary barriers can be erected to mitigate the noise emanating from a source.

For reference, see Commonwealth of Massachusetts, Section 721.560 – Construction Noise Control.

Standard Practice

None.

Recommended Practice

None.

Best Available Practice

None.

CASE STUDY

Noise Abatement and Mitigation Procedures
Federal Highway Administration

The Federal Highway Administration has identified a number of measures and provisions which help to mitigate construction noise. One such strategy is the utilization of natural and artificial barriers such as ground elevation changes, existing buildings, noise walls, and other structures. Also, many construction vehicle engine compressors are contained or have baffles to help abate noise levels. Electric compressors are significantly quieter than diesel or gasoline engine powered compressors.

http://www.fhwa.dot.gov/environment/noise/handbook/07.htm

7.0 CONSTRUCTION PRACTICES

7.11 Sustainable Temporary Construction Materials

1 Point

INTENT

Reduce the use and depletion of finite raw materials and long-cycle renewable materials by replacing them with high recycled content, rapidly renewable materials and FSC certified wood products for temporary uses during construction.

REQUIREMENTS

Temporary construction materials include, but are not limited to, any materials that are used for construction that are not incorporated into the final development such as, erosion control materials, temporary haul roads, shoring materials, formwork, temporary carpentry, and traffic control devices and signage. For the purposes of this calculation, only the material cost, excluding labor and equipment, shall be used. In order to meet the requirements of this credit, one of the following requirements must be met:

Using a recycled content calculation similar to SAM Credit 5.7, determine the percentage of recycled content in the temporary construction materials based on overall temporary construction material cost. To achieve a point in this credit, the overall recycled content of the temporary construction materials must be 30% or greater by cost.

OR

Using a rapidly renewable content calculation similar to SAM Credit 5.9, determine the percentage of the rapidly renewable materials based on overall temporary construction material cost. To achieve a point in this credit, the overall recycled content of the temporary construction materials must be 10% or greater by cost.

OR

Using a certified wood calculation similar to SAM Credit 5.10, determine the percentage of certified wood materials based on the total wood-based material cost. To achieve a point in this credit, the overall recycled content of the temporary construction materials must be 60% or greater by cost.

Do not count temporary construction materials under any of the credits in Section 5.0 – Materials & Resources. Materials such as aggregates may be counted either under SAM Credit 5.5 or this credit, but should only be counted once.

SUBMITTALS

Although not required for the Sustainable Design Checklist, include specification sections that indicate how these requirements are met.

For the sustainable construction checklist, the contractor must provide a calculation of the actual materials used indicating that at least one of the above requirements was met.

Use calculation templates similar to the SAM Credits in Section 5.0 – Materials & Resources – as appropriate.

TECHNOLOGY/STRATEGY

Many temporary construction materials can help achieve the requirements of this credit. Although not tracked by LEED, CDA has added this credit in order to promote the use of such materials during construction, as well as for final development stages of a project.

Standard Practice

Although many temporary construction materials meet the requirements of this credit, their use is typically not tracked or promoted. The designer is encouraged to specify sustainable materials in construction wherever possible. The contractor is further encouraged to use these types of materials in the cases where they may not be explicitly specified.

Recommended Practice

Materials that may have high recycled content include, but are not limited to:

- Temporary steel structures or materials
- Fencing or metal barricades
- Plastic traffic control devices (barricades, cones)
- Temporary piping (HDPE, ductile iron)
- Steel formwork
- Plastic erosion control materials (e.g. silt fence)

Materials that have rapidly renewable materials include, but are not limited to:

- Poplar oriented strand board (OSB) for formwork or temporary carpentry
- Coir or jute fabric erosion control blankets and meshes
- Plant-based cladding and insulation materials
- Contractor trailer materials such as flooring and finishes

FSC certified wood products for temporary construction materials may include:

- Wood formwork
- Temporary wood structures or scaffolding

Best Available Practice

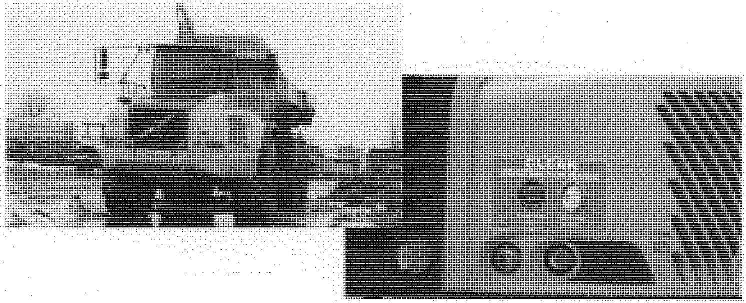
None.

CASE STUDY

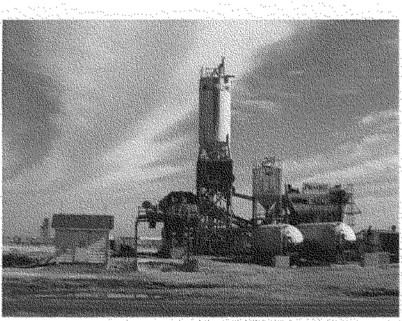
Sustainable Scaffolding Materials
Seattle, Washington

When Seattle enacted a Sustainable Building Policy in 2000, all new city-funded renovations and construction projects were required to obtain LEED Silver rating. In response to this initiative, contractors are expected to begin utilizing sustainable materials for construction project scaffolding structures. Most of these types of scaffolding structures are made of bamboo or hybrid-bamboo material, which is regarded as highly sustainable.

http://www.scaffoldingusa.com/scaffold/seattle-scaffolding.html



Clean fuel construction vehicles



On-site Batch Plant

Balanced Earthwork Plan, in action

Designated material recycling area

8.0 INNOVATION IN DESIGN/CONSTRUCTION

8.1 – 8.3 Innovation in Design/Construction

1 – 3 Points

INTENT

To provide design teams and projects the opportunity to achieve exceptional performance above the requirements set by the Sustainable Airport Manual Green Airplane Rating System and/or innovative performance not specifically addressed by the Sustainable Airport Manual.

REQUIREMENTS

In writing, identify the intent of the proposed innovation credit, the proposed requirement for compliance, the proposed submittals to demonstrate compliance, and the approach (strategies) that might be used to meet the requirements.

Up to three points are available for this credit:

SAM Credit	Points
8.1	1
8.2	1
8.3	1

SUBMITTALS

Include descriptive narrative in the SAM Checklist following the criteria in the Requirements section above.

TECHNOLOGY/STRATEGY

Substantially exceed a SAM performance credit such as energy performance or water efficiency and/or apply strategies or measures that demonstrate a comprehensive approach and quantifiable environment and/or health benefits.

Refer to LEED Credit Interpretation Results (CIRs) or the Innovation in the LEED Design Credit Catalog[1] for potential strategies that may be considered for innovation. Most will pertain to building related innovations; however the SRP will review proposed innovations by the designer or contractor on a case by case basis. Some examples include green cleaning programs for buildings, educational programs for building occupants related to sustainability, and innovative construction practices that reduce waste such as travelling formwork.

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[1] Available at www.usgbc.org.

CASE STUDY

DFW Sustainability Initiative
Dallas / Fort Worth International Airport - Dallas, Texas

In August 2008, DFW Airport initiated an airport-wide Sustainability Policy and Program, which is a key element in the Airport's Strategic Plan designed to positively impact the environment, the surrounding community, the Airport and its employees. This comprehensive approach encourages project submittals for airport-related facilities to demonstrate compliance to LEED-related policies and the strategies used to meet the requirements.

http://www.dfwairport.com/sustainability/index.php?ctnid=45185
http://www.airports.org/aci/aci/file/ACI_Priorities/Environment/TRACKER%20FILE_Airport%20environment%20initiatives.pdf

8.0 INNOVATION AND DESIGN PROCESS

8.4 Menu Items

(Construction Equipment Retrofit, Photovoltaics, Geothermal Heating/Cooling, Wind Power, Rainwater Harvesting, Permeable Pavement, Trombe or Solar Walls, Green Walls, or Alternative Water Heating)

1 – 3 Points

INTENT

To promote specific technologies and additional strategies considered to be important to the sustainability of the airport environment.

REQUIREMENTS

A point will be awarded for each of the technologies or strategies listed below that are used on a project up to a maximum of 3 points:

- Construction Equipment Retrofit – Retrofit all construction equipment over 50 hp and on site for more than 14 calendar days per month to EPA Tier 2 emission standards.
- Photovoltaics – Use photovoltaic systems to generate electricity. System must generate 0.5 kW or greater.
- Geothermal Heating/Cooling – Any geothermal system to provide heating and cooling is acceptable.
- Wind Power – Generate on-site electricity using wind turbines, horizontal or vertical. System must generate 0.5 kW or greater.
- Rainwater Harvesting – Use cisterns, rain barrels, or other vessels to store rain water for other uses including, but not limited to, irrigation, vehicle washing, and other general, non-potable uses. The harvested rainwater must have an intended use. Minimum storage capacity is 200 gallons.
- Permeable Pavement – Use permeable pavement such as concrete, asphalt, or pavers, for at least 5% of the total pavement area of the project not subject to aircraft traffic or 1,000 sq. ft, whichever is greater.
- Trombe or Solar Walls – Use passive solar preheating of intake air for space heating using wall systems or other building surfaces.
- Green Walls – Use green, vegetated wall systems on exterior of building envelope for at least 25% of the vertical wall surfaces or the entirety of south and/or west facing walls, whichever is greater.

- Alternative Hot Water Heating – Use solar thermal for 25% or demand (tankless) hot water heating systems for 100% of the project's hot water demand. Excludes process water demand.

SUBMITTALS

Include descriptive narrative and calculations in SAM Checklist. Indicate in the narrative which of the above technologies and strategies are being included in the project and, where applicable, indicate where these items are shown in the drawings or specifications.

TECHNOLOGY/STRATEGY

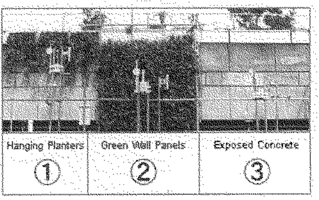
Choose any of the following:

- Construction equipment retrofit – The use of particulate traps and catalysts to meet more stringent EPA emissions standards for older construction equipment.
- Photovoltaics – Photovoltaic or solar-electric systems may be ground-mounted, roof-mounted, or built into the roof or walls of a building, known as building integrated photovoltaic (BIPV).
- Geothermal heating/cooling systems – Any geothermal system to provide heating and cooling is an acceptable strategy.
- Wind power – Generate on-site electricity using wind turbines, horizontal or vertical.
- Rainwater harvesting – Collecting rainwater from the many roofs at an airport would provide a large source of clean non-potable water. Although the supply would far exceed the demand, the use of harvested rainwater should be taken on a site-specific case by case basis. Although airport irrigation is limited to ornamental planters, other uses such as vehicle washing may be amenable to this technology.
- Permeable pavement – The amount of pavement at an airport makes permeable pavement an attractive application for the management of stormwater. Although major pavement areas such as runways, taxiways, and apron areas cannot include permeable pavement, there is a significant amount of non-aviation related pavement areas. Using permeable pavement, unit pavers or permeable asphalt or concrete, may also further contribute to the sustainability of a project because these materials can contain high recycled content materials that are locally available, and may reduce heat island effects for non-roof areas, in addition to their stormwater management aspects. All three of these types of pavements have been demonstrated and are being used by the City of Chicago in its Green Alley Program under the direction of Chicago Department of Transportation (CDOT).
- Trombe or Solar walls – These systems use solar energy to heat a thermal mass, usually a concrete wall or an air gap between an interior wall and a dark-colored exterior surface, as means to preheat intake air. On very cold days, the heating system can condition preheated air rather than putting the additional energy in heating cold outside air, thereby realizing an energy savings. In some cases, the wall may also have a photovoltaic component that generates electricity.

- Green Walls – Vegetated green wall systems on exterior of building envelope can reduce wall surface temperatures by as much as 18°F (depending on which direction it is facing), which also results in significant air conditioning savings, while reducing the heat island effect.
- Water heating – Solar thermal hot water heating technology uses a solar collector which is simply a heat exchanger designed to convert the sun's radiant light energy into thermal energy to be stored for later use. This collector uses optics and parabolic concentration technology to heat the fluid media passing through the selectively coated tubing manifold. The fluid media is circulated, via a pump, through the collector and into a storage tank located within the home/building. Other water heating technologies that are encouraged include demand, instantaneous, or tankless water heaters. Demand water heaters heat water directly without the use of a storage tank thus avoiding the standby heat losses associated with conventional storage tank water heaters. When a hot water tap is turned on, cold water travels through a pipe into the unit. Either a gas burner or an electric element heats the water as it passes through coiled piping within the unit. As a result, demand water heaters deliver a constant supply of hot water not limited by the volume of a storage tank.

CASE STUDY

What about Green Walls?
Tokyo, Japan

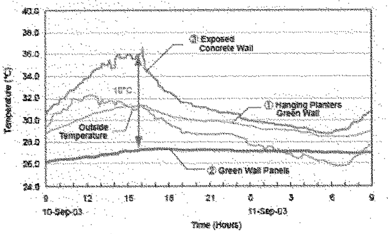


During summer, hot walls cause temperatures to rise inside buildings, increasing demand on cooling systems and consuming more energy. A Green Wall surface temperature is reduced by up to 10°C when covered with plants and moist soil. In 1979, Green Wall research by Akira Hoyano (Professor, Tokyo Institute of Technology), a pioneer in passive and low-energy architecture, revealed that the heat energy that passed through a Green Wall was significantly lower than a concrete wall (see below graph).

The Tokyo City Government recently undertook a study to measure the effects of Green Walls on the Heat Island effect, and in essence, to confirm Professor Hoyano's earlier findings. They not only confirmed the findings, but they were able to derive the significance of Green Walls in cooling buildings and combating the Heat Island Effect.

With the Green Wall tests shown here, it was discovered that Green Wall panels reduce the wall temperature by 10°C (see the below graph). It was also concluded that Green Wall panel reduce energy transfer into a building by ~0.24kWh/m^2. This is approximately 60% less than that of a Green Roof. The above calculations can be used in the same manner, however, Green Wall energy savings calculations depend greatly on the direction the wall is facing, the sun's angle in your local region, and many other factors that make calculating Green Wall energy savings complex.

● Temperature variation of Green Walls



http://www.g-sky.com/Benefits_EnergySavings_Detailed.aspx

8.0 INNOVATION AND DESIGN PROCESS

8.5 LEED Accredited Professional

1 Point

INTENT

To support and encourage the design integration required by LEED to streamline the application and certification process.

AND

To facilitate the incorporation of sustainable design and construction elements.

REQUIREMENTS

At least one principal participant of the project team shall be a LEED Accredited Professional (AP).

SUBMITTALS

Identify the LEED AP in SAM Checklist and submit proof of their LEED AP certification.

TECHNOLOGY/STRATEGY

Educate the project team members about green building design and construction, the LEED requirements and application process early in the life of the project. Consider assigning integrated design and construction process facilitation to the LEED AP.

Standard Practice

The OMP requires that each design consultant and/or design management team include a LEED AP on its staff to assist or oversee the design and assist with construction administration.

CASE STUDY

Sustainable Airport Planning, Design and Construction Guidelines
Los Angeles World Airports - Los Angeles, California

Los Angeles World Airports, with aggressive support from Los Angeles Mayor Antonio Villaraigosa, has begun implementation of the "Sustainable Airport Planning, Design and Construction Guidelines for all projects at its facilities. The vision encourages every project to include LEED-accredited professionals and follow the "triple bottom line" approach for sustainability.

http://www.cdm.com/NR/rdonlyres/C8082F7D-5893-4B6E-84DD-5D228D0BB248/0/LAWA_Airport_Mag.pdf

8.0 INNOVATION AND DESIGN PROCESS

8.6 LEED Certified Project

1 Point

INTENT

To promote the incorporation of environmentally sustainable design in building and infrastructure improvements by registering and certifying a project through the LEED certification process and rating system.

REQUIREMENTS

Achieve certification via the LEED process – Certified, Silver, Gold, or Platinum.

SUBMITTALS

Include descriptive narrative in SAM Checklist demonstrating that the project has been registered under LEED during the design process. Provide the LEED submittal documentation and final determination. Indicate what level of LEED certification has been achieved after construction.

TECHNOLOGY/STRATEGY

Educate the project team members about green building design & construction and application of the LEED Rating System early in the life of the project. Consider pursuing LEED for any occupied building project.

Standard Practice

Projects are encouraged to seek LEED certification, where applicable.

Recommended Practice

Encourage LEED Silver or better rating for occupied buildings.

Best Available Practice

None.

CASE STUDY

O'Hare Modernization Program
Chicago O'Hare International Airport - Chicago, Illinois

As of 2008, the O'Hare Modernization Program has encouraged several projects to pursue LEED certification, including the North Air Traffic Control Tower and FedEx World Services Center.

http://www.oharemodernization.org

9.0 REGIONAL PRIORITY

9.0 Regional Priority

1 to 4 Points

INTENT

To provide an incentive for the achievement of credits that address geographically-specific environmental priorities.

REQUIREMENTS

Earning one to four of the six Regional Priority credits identified by the USGBC regional councils and chapters as having environmental importance for a project's region. A database of Regional Priority credits and their geographic applicability is available on the USGBC website, http://www.usgcb.org.

The credits are specific to a project's ZIP code. Use the following link to determine which credits are applicable for a given project based on zip code location:

http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1984

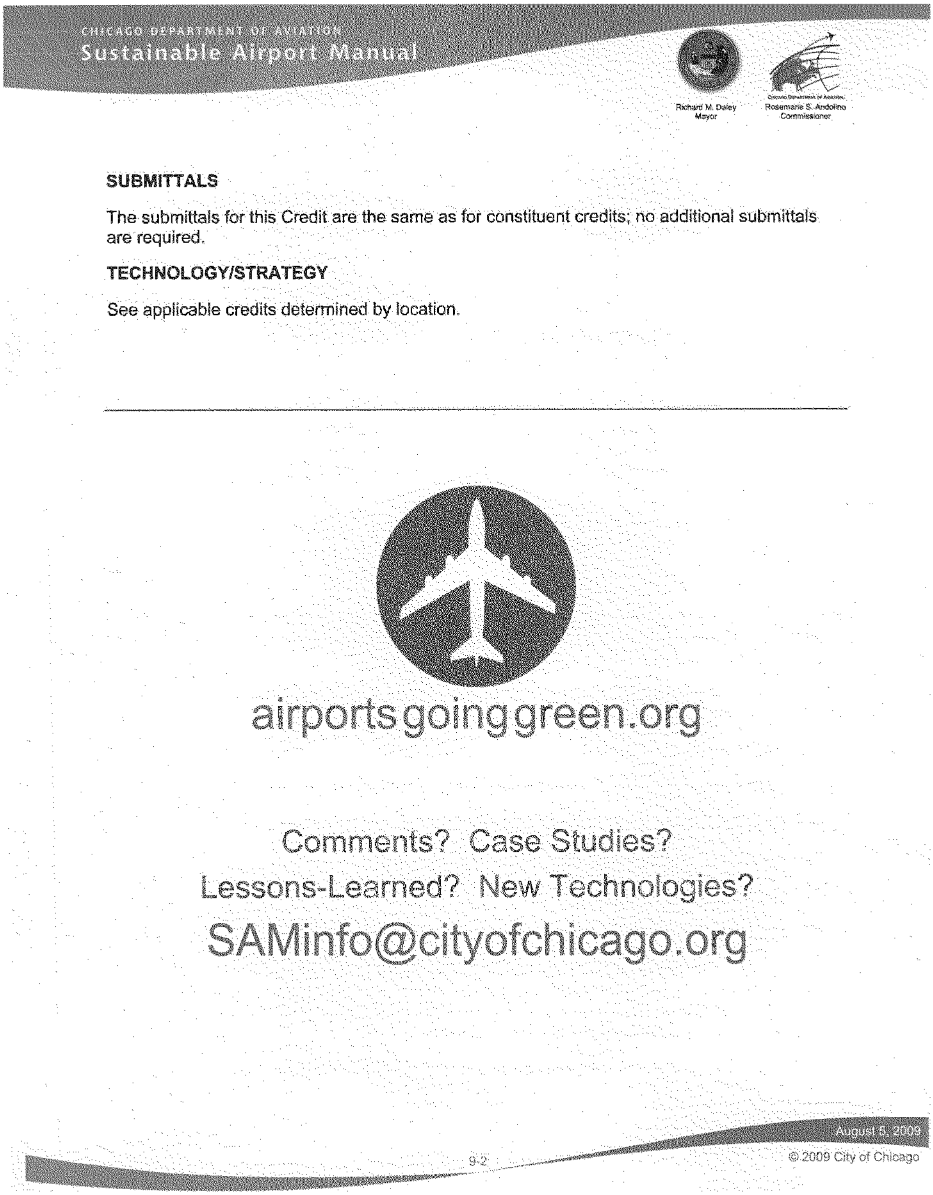
One point is awarded for each Regional Priority credit achieved; no more than four credits identified as Regional Priority credits may be earned. Projects outside the US are not eligible for Regional Priority credits.

For example, the majority of ORD lies within the 60666 zip code. The following credits are identified as Regional Priority credits for ORD zip code 60666:

- SAM Credit 2.4.1 – Alternative Transportation, Public Transportation Access
- SAM Credit 2.4.3 – Alternative Transportation, Low Emitting Vehicles
- SAM Credit 2.4.4 – Alternative Transportation, Parking Capacity
- SAM Credit 2.5.2 – Stormwater Design, Quality Control
- LEED 2009 SSc1 – Site Selection
- LEED 2009 SSc2 – Development Density and Community Connectivity

Note that two LEED credits listed above are applicable for this zip code, but are not SAM Credits outlined in this Manual. Meeting any of the four of the SAM Credits would earn one point for each. However, if the project is pursuing LEED certification, all of the credits would be applicable, but the maximum points allowed is still four.

NOTE: Zip Codes present at ORD in order of decreasing area size include 60666 (Cook Co.), 60106 (DuPage Co.), 60018 (NE boundaries, Rosemont), 60007 (NW boundaries), 60176 (SE boundaries, Schiller Park). The Zip Code at MDW is 60638.



SUBMITTALS

The submittals for this Credit are the same as for constituent credits; no additional submittals are required.

TECHNOLOGY/STRATEGY

See applicable credits determined by location.

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airportsgoinggreen.org

Comments? Case Studies?
Lessons-Learned? New Technologies?
SAMinfo@cityofchicago.org

QUESTIONS FOR THE RECORD SUBMITTED BY CHAIRMAN OLVER SUBCOMMITTEE ON TRANSPORTATION, HOUSING AND URBAN DEVELOPMENT, AND RELATED AGENCIES HOUSE COMMITTEE ON APPROPRIATIONS

FEDERAL HIGHWAY ADMINISTRATION

LIVABLE COMMUNITIES

1.
QUESTION: The Federal Highway Administration's (FHWA) budget for fiscal year 2011 requests $200 million for the Livable Communities Program to support initiatives that increase transportation choice and integrate housing and land use into transportation decisions.

Please provide some specific examples of the types of projects that would be funded using highway program dollars under this initiative.

RESPONSE: The Livable Communities Program funds will be used to enhance the recipient's capacity to plan and implement transportation projects consistent with livability goals and performance investment objectives. For example, the funds could be used to:

- Develop and implement transportation and other modeling strategies that integrate land use, transportation, housing, and conservation of open green space and natural resources;
- Provide training to enhance the capacity of state and tribal DOTs, Metropolitan Planning Organizations (MPOs), Rural Planning Organizations (RPOs), cities and counties, and transit agencies to address livability in their work;
- Furnish software and computer upgrades to support improved modeling and data collection;
- Support reorganization of the institution to better reflect new responsibilities and expertise needed;
- Prepare for the development of future integrated planning and funding efforts or to implement a comprehensive plan supported by the community.

2.
QUESTION: How does the concept of "Livable Communities" work in rural communities under this proposal?

RESPONSE: The elements of livability are as important to rural communities as they are in metropolitan areas. Rural communities should have transportation systems that provide reliable, safe access to jobs, education, health care, and goods. Capacity building activities will enable agencies working in rural communities to identify ways to:

- *Better connect small urban and rural areas with metropolitan, national and global markets and service:* Some rural communities are isolated because transportation networks are not available or linked. As a consequence residents in these communities may have difficulty traveling to airports, train stations or other communities.

- *Improve accessibility to essential services in rural communities*: One of the key tenets of the Livability Initiative is to provide safer transportation options to improve access to housing, jobs, health care and other services.

3.
QUESTION: Given that the $200 million that would be used to fund the Livable Communities Program is to be reallocated from other programs within existing funding levels, how do you respond to the criticism that this initiative is diverting highway program dollars away from their core purpose?

RESPONSE: The Livable Communities Program will help ensure that the overall Federal Aid Highways Program is successful in supporting integrated, well-functioning transportation networks. In doing so, it will allow communities to make their limited dollars go much further. The program will fund better data collection, staff training model upgrades and other capacity building that will allow State and local governments to move into the performance driven world that everyone agrees is necessary. It is also necessary to coordinate transportation, economic development, land use, housing and resource management while protecting the environment and promoting multi-modal choices in urban and rural communities. By using funding from the largest apportioned programs, this proposal is designed to minimize the impact on FHWA programs. Based on the FY 2011 budget request, it is estimated that the takedown for Livable Communities would represent about 0.46% of all contract authority and 0.85% of contract authority for just the five programs that will be impacted.

4.
QUESTION: The Department of Transportation (DOT) has requested funding across three offices within the Department in order to support the Livable Communities Program, specifically within the Office of the Secretary, the Federal Transit Administration, and the FHWA. In addition, the Department of Housing and Urban Development has requested $150 million within its budget to support a similar initiative. Can you explain how the FHWA plans to facilitate communication across modes within DOT, as well as with other Federal agencies?

RESPONSE: FHWA continues to facilitate communication across modes within DOT at both executive and staff levels, as well as with other Federal agencies by participating in the monthly DOT Livability meetings and the Interagency Partnership for Sustainable Communities Partnership meetings. FHWA has worked closely with staff from the Office of the Secretary and with the Department of Housing and Urban Development (HUD) and the Environmental Protection Agency (EPA) in the Interagency Partnership for Sustainable Communities to develop policies and funding opportunities, such as the recent joint Notice of Funding Availability for HUD's Community Challenge Planning Grants and the DOT's TIGER II Planning Grants.

AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009

5.
QUESTION: The American Recovery and Reinvestment Act of 2009 (the Recovery Act) was enacted on February 17, 2009, in response to what is generally reported to be the most serious economic crisis since the Great Depression. The goals of the Recovery Act, among other things, included preserving and creating jobs, assisting those most impacted by the recession, and investing in transportation and other infrastructure that will provide long-term economic benefits. The Recovery Act provided $27.5 billion for highway infrastructure improvements which is being delivered through established formula and other programs.

Please provide a table that details how much of this funding has been obligated and outlayed. Include a breakdown of this information by each category of funding designated in the Recovery Act.

RESPONSE: Please see the following obligation and outlay table.

6.
QUESTION: How has the Recovery Act helped the FHWA to meet its strategic goals and the States to meet its transportation needs? Is the FHWA planning to track and measure this and if so how?

RESPONSE: The Recovery Act afforded FHWA the opportunity to meet its strategic goals and objectives especially in the areas of National Leadership, Program Delivery, System Performance, and Corporate Capacity.

The FHWA has been instrumental in the success of the Recovery Act. Working with our State partners, we were able to meet the deadline set by Congress to obligate 100 percent of our Recovery Act funds by the March 1, 2010 deadline. By implementing the numerous highway provisions included in the Recovery Act, the FHWA has helped States in addressing a number of critical needs such as increased demand for system capacity to meet the expanding movement of goods and people; maintaining an aging infrastructure; improving highway safety and security; and reducing the costly burden of traffic congestion. Most of the Recovery Act project funds are being used to maintain and improve pavement condition, which should reduce wear and tear on vehicles. The Federal Highway Program also ensures a connected system of roads that serve interstate, regional, and national needs. In addition, the Federal Lands Highway program provides for the management and oversight of roads on public lands and Indian reservations.

Over the past 15 months, FHWA has committed $26.6 billion to more than 12,000 road, highway and bridge projects across the country. In addition to putting our fellow citizens back to work, these projects are making our communities safer, greener, more livable, less congested and economically stronger. It was through FHWA's strong and consistent leadership that it was able to work with the States and other project sponsors to deliver a program of projects of this size and complexity within the required timeframes. FHWA began to set the stage for the Recovery Act even before its passage by having weekly video conferences with its division offices' staffs and the State departments of transportation both individually and collectively on a regular basis, disseminating consistent guidance, and tracking progress consistently.

Implementation of the Recovery Act Highway Program presented FHWA with a number of challenges. To ensure that we were prepared to meet the risks associated with these challenges and to carry out our responsibilities for risk-based oversight, FHWA developed a Recovery Act Risk Management Plan, and identified specific strategies to mitigate risks in critical areas, including: National Oversight; Enhanced Division Office Oversight, Resource Needs and Enhancement; Communication and Education; Sharing Risk with Partners, particularly State DOTs; Measuring, Monitoring, and Periodically Reviewing the Program; and Information and Tool Development.

FHWA is tracking program success by utilizing several system performance measures developed for the regular Federal Highway Program. For instance, the Recovery Act Data System (RADS) was developed specifically to assist State departments of transportation in meeting their reporting requirements under the Recovery Act, including job reporting. System performance measures include pavement condition, number of miles improved, number of projects underway and funded, percent of funds fully obligated, and percent of funds expended. FHWA is also tracking program implementation through National Review Teams that were established specifically to monitor Recovery Act project implementation by the States to ensure that program requirements are met. In addition, FHWA has been responsive to the Government Accountability Office (GAO) and DOT Office of Inspector General (OIG) recommendations regarding tracking and measuring program outcomes by providing additional guidance and making improvements to RADS to assist the States in fulfilling Recovery Act reporting requirements.

7.
QUESTION: The American Association of State Highway and Transportation Officials has reported that States have been able to stretch Federal construction dollars further today, with a recent study showing some highway bids running as low as 30 percent below estimates and three States (California, Georgia, and Texas) awarding more than 90 percent of their highway contracts funded by the Recovery Act below original cost estimates.

Having contracts being awarded for less than cost estimates is, in many ways, a good problem to have. But how does the Federal government ensure that it is still getting a quality product and that this trend is not irrevocably damaging the health of the construction industry?

RESPONSE: Recovery Act projects typically have similar contractual terms as projects funded with regular Federal-aid dollars. While bids have been running lower than project estimates for many projects, the contract specifications and quality assurance/quality control requirements have not changed. It is these contract performance requirements that the contractors will be held to in order to assure that we get a quality project. This is all part of the States' and FHWA's normal oversight of construction and contract requirements. In addition, FHWA initiated a number of National Review Teams to review various processes in the States to identify weaknesses that should be addressed because of the increased Recovery Act funding. Contract administration has been part of these reviews.

The highway program has a long standing practice of encouraging competition and obtaining low responsible bids for projects. The premise is that construction contractors know how to manage the inherent risks and submit bids that take into account their operating costs and risks. Additionally, increased competition indicates that there is capacity in the industry for the work available. Thus, the long term health of the industry should not be affected by the current situation and lower bids are a normal reflection of the competitive process working as it should.

8.
QUESTION: Is the FHWA satisfied with the pace at which Recovery Act projects have been placed under contract? If Congress passes another jobs bill that includes significant transportation funding, what if anything could or should be done to improve the selection of projects and getting contracts started quicker?

RESPONSE: The selection of Recovery Act funded projects had an emphasis on both getting contracts underway quickly and completing the work quickly. The goal was to get the funds flowing to get construction workers employed. FHWA is monitoring progress on these measures and is actively engaging the States if something does not appear to be moving efficiently. Recovery Act projects do seem to be placed under contract and completed more quickly than the average project funded with regular Federal-aid funds. This may be due to the time thresholds provided by Congress for the obligation and expenditure of Recovery Act funds; and the States own motivation to keep workers employed.

Many States have procedures that constrain how quickly they can advance a project to the contract stage. Prior to the passage of the Recovery Act, FHWA had started to work with the States to get projects into the process so as to minimize the delay in getting projects to contract once the Recovery Act was passed. One issue with getting a large number of projects under contract quickly is the concern with overwhelming the contracting industry in a given area. We recognize that the States advanced projects to contract methodically so as to avoid contractors bidding high because of the large amount of work available in one letting and perhaps having inadequate time to properly prepare all the bids. Having adequate lead time from Congress to plan out the work and the advertising schedule is needed to getting good projects to contract and started quickly.

9.
QUESTION: There was speculation at the time the Recovery Act was debated in Congress that additional highway funding from the General Fund that had a 100 percent Federal share would lead to a slowdown in the regular Federal-aid highway program. The rationale behind this argument was that, given limited resources, States would undertake projects for which they would get reimbursed 100 percent instead of the usual 80 percent, leading to fewer Federal dollars actually being expended from the Highway Trust Fund. With the availability of the Recovery Act funds, are the States continuing to program and deliver projects using their traditional Federal-aid funding, as well as State and local funding? Or are we seeing fewer

projects moving forward under the regular Federal program as a result of the Recovery Act and are we seeing lower outlays from the Highway Trust Fund as a result?

RESPONSE: States are continuing to obligate and outlay their traditional Federal-aid funding. In FY 2009, States fully utilized the annual obligation limitation for all apportioned programs and FHWA anticipates that the States will do the same in FY 2010.

Although outlays from the regular Federal-aid program are down compared to historical rates, there are a number of factors that likely had an impact on outlays in 2010. For example, five separate short-term continuing resolutions and/or authorization extensions occurred during FY 2010 and the uncertainty of full-year Federal funding commitments may have slowed spending decisions and therefore outlays. Also, for the first six months of FY 2010 contract authority was subject to previously enacted rescissions which lowered the amount of funding available. Finally, several parts of the country experienced historically severe weather conditions which can delay projects thereby slowing outlays.

10.
QUESTION: What steps is the FHWA taking to ensure recipients are aware of changes made by the Office of Management and Budget (OMB) to the process of reporting jobs created and sustained? Are you satisfied that the information available to the public on Recovery.gov accurately represents the impact of Recovery Act funds?

RESPONSE: The FHWA hosts OMB's weekly government-wide Recovery Act conference calls on behalf of the DOT. Through this interaction with OMB and the other DOT modes, FHWA is made aware of any potential changes and updates to the jobs reporting requirements.

To ensure that recipients are aware of any changes, FHWA routinely hosts web conferences with recipients where job reporting requirements are a regular topic. In addition to the web conferences, FHWA takes a number of other measures to ensure recipients are well informed, including the following:

- Set up an electronic mailbox for Recovery Act questions, with monitoring by several staff members who regularly respond to jobs reporting requirements inquires,
- Provides jobs reporting validations to recipients on a daily basis during the 1512 quarterly reporting Agency review week, and
- Updates reporting requirements, including jobs reporting requirements, with the FHWA Recovery Act Data System Guidance reporting document.

FHWA believes that Recovery.gov provides current and accurate information that represents the impact of Recovery Act funds.

11.
QUESTION: If Congress passes another jobs bill that includes significant transportation funding, what would the FHWA's priorities be in terms of how projects would be funded (e.g. whether to

use existing formula programs or new discretionary funds) and what changes would you want to see, if any, to the requirements on States and grantees? If Congress does not pass a jobs bill with significant transportation funding, is there anything that the FHWA can do to help States survive their fiscal crises without drastically cutting back on highway spending?

RESPONSE: The FHWA is proud of what we have accomplished in partnership with States and Federal agency partners to create jobs and improve transportation infrastructure with the resources provided by the Recovery Act. Part of that success can be attributed to the familiarity State officials had in working with the federal framework. The Recovery Act highway funds were available for purposes for which federal funds are usually provided and under substantially the same conditions. As a result, officials at State departments of transportation were well acquainted with the type of projects eligible for, and the federal requirements associated with, this funding. The uses and requirements for the funds provided for the Federal Lands Highways programs were similarly familiar to the recipients and partner agencies. The similarity to the ongoing programs meant that there were projects in the pipeline that were eligible for Recovery Act funds and that could be advanced quickly.

The huge demand for the funds appropriated to the Office of the Secretary for supplemental discretionary grants for a national surface transportation system—the TIGER grants—is an indication that there are still many meritorious projects in need of funding. The TIGER funds allowed the Department to make grants for significant and typically complex projects that likely would not have been funded through the traditional formula programs. Since the funds were available for all surface transportation modes, the use of that funding was especially suited to multimodal and intermodal projects.

Transparency was a hallmark of the Recovery Act and this should be continued. However, transportation funding was subject to two separate, and sometimes conflicting, sets of reporting requirements—those that applied to all Recovery Act funds and those that applied only to the transportation funds. If additional funds are provided, the overlapping reporting requirements should be streamlined.

The FHWA can help States deal with their fiscal problems in two ways. First, we can provide technical assistance to aid States in getting the most for their scarce resources. Second, we can offer the use of a "tapered match." This allows the non-federal share of the project costs to be the last dollars put into the project instead of the more typical practice of splitting each payment between the Federal and State government throughout the life of a project. As the economy recovers, states would be better positioned to pay their share of project costs.

12.
QUESTION: What are some of the lessons learned from the transportation funding provided by the Recovery Act that Congress and the FHWA can apply to a long-term reauthorization measure and to the future surface transportation program?

RESPONSE: Transportation funding under the Recovery Act has provided several lessons learned that Congress and the FHWA can apply to a long-term reauthorization of the surface transportation program. The funding has provided critical resources that States have used to address system improvements. At the same time, States have continued to implement their regular Federal-aid Highway Program (FAHP).

One of the hallmarks of the Recovery Act has been the transparency in how Federal funding addresses transportation system needs. The reporting and data systems developed in response to the Recovery Act can serve as an important step in increased transparency and accountability for performance in transportation spending. For data reporting, better definition of the purpose of the data collection, and the data to be collected are critical for data system development and defining the costs to develop and maintain the appropriate data system. The lack of clarity in definitions, the breadth of the Recovery Act reporting requirements and a one-size fits all approach to reporting have contributed to compromises in the quality of the data submitted. These issues should be addressed if long-term monitoring and reporting for the FAHP is contemplated.

Similarly, the Recovery Act has emphasized the importance of risk management to help ensure that all Federal program requirements are met in the delivery of projects, and to ensure that the maximum benefit is received from the Federal investment. The FHWA established a comprehensive risk management framework for the Recovery Act Highway Program that included the use of National Review Teams. These Teams are undertaking an intensive effort to review and report on project delivery in all 50 States, the District of Columbia, and Puerto Rico.

The transportation community has excelled at delivering a highway program when the size of the program and the program requirements are known well in advance. This capability results from having a system in place and a known level of resources to deliver that program. Several aspects of the Recovery Act, such as tight timeframes for fund obligation and additional program requirements, including program monitoring and reporting, such as Maintenance of Effort (MOE) and Economically Distressed Areas (EDA) presented implementation challenges. The existing FAHP works well when the opportunity to plan the delivery is provided. Additional program requirements such as reporting, MOE and EDA may be appropriate to consider, but more clarity is needed in how these requirements are to be applied and in the criteria used to define them.

The TIGER discretionary program has helped to highlight the importance of breaking down transportation funding silos so that resources can be directed to the most meritorious projects. The unique provisions of the TIGER discretionary program allowed several projects to be funded that would have otherwise had a difficult time competing for regular FAHP funds. In addition, the TIGER projects have shown the importance of partnerships to the future success of transportation programs.

13.
QUESTION: Do you believe that the Maintenance of Effort requirement on States has been an effective approach to assuring that the Recovery Act lead to an overall increase in highway spending and thus demand in the economy? Why or why not?

RESPONSE: The Maintenance of Effort (MOE) provision has provided States with an incentive to maintain their transportation spending. However, the economic downturn has impacted State revenues. Many States have indicated that dedicated transportation revenues are down and State transportation spending is directly tied to the amount of revenue the State collects. Because of reduced revenue collection, some States have indicated that it will be difficult to meet the planned level of expenditures identified in the State MOE certification. A few States have indicated they may be unable to expend their full MOE certified amount due to bid savings on projects let this construction season. The MOE provision of the Recovery Act does not allow for any exceptions to the requirement, including changes in economic conditions.

There also have been a number of challenges in implementing the MOE provision. There is a great deal of variation among the States with how transportation programs are administered. While all States seemed to be able to track and predict obligations, not all States had cash flow software that would enable them to predict future expenditures. In addition, States have a variety of systems for providing State funds to local communities for transportation purposes and many States had difficulties identifying the portion of State funds that local entities planned to expend on eligible types of projects. At the close of the Recovery Act, the Department will examine the lessons learned in administering the MOE provision.

UNOBLIGATED BALANCES IN MISCELLANEOUS ACCOUNTS

14.
QUESTION: The FHWA's budget proposes to cancel $263.131 million in unobligated balances of funds previously made available for specific projects designated by Congress in Acts prior to 1992. Please provide a list of all the projects that would be affected by this proposal, including the amount that would be cancelled from each individual project and the State and the Congressional district that the project is located in. Please group the projects by Public Law.

RESPONSE: Please see the following table, which reflects an additional $2.7 million in unobligated balances that was identified after the submission of the President's budget.

15.
QUESTION: What criteria did the FHWA use to come up with this list of projects?

RESPONSE: FHWA identified earmarked projects with unobligated balances originally authorized by the Intermodal Surface Transportation Equity Act of 1991 (ISTEA) and prior authorization acts.

16.
QUESTION: Did the FHWA check with State and local governments to verify that these funds were no longer needed for their Congressionally designated purpose? Please provide the results of that survey or explain why it was not conducted before this proposal was sent to Congress.

RESPONSE: No, FHWA did not survey the States on the status of the Congressionally-designated projects. However, FHWA included only those projects which were authorized at least 15 years ago and for which funds remain unobligated.

17.
QUESTION: A similar rescission of unobligated balances of Congressionally designated projects was recently proposed in the Senate. Specifically, Senator Feingold of California offered an amendment to the FAA Air Transportation Modernization and Safety Improvement Act, H. R. 1586, which would rescind the unobligated balances of projects that are 10 years old or older and for which less than 10 percent of the funding has been obligated. Please provide a similar table for all of the highway projects that would be affected by this provision if enacted into law.

RESPONSE: Please see the following table.

18.
QUESTION: In House Report 110-238, which accompanied the Consolidated Appropriations Act, 2008 (P.L. 110-161), the Committee directed the FHWA to submit a report detailing how the agency reviews unobligated and/or unexpended project funds to determine whether or not those remaining funds are still needed to complete the project. The FHWA noted in that report, which was dated May 26, 2009, that, "Due to FMIS limitations, this spreadsheet list must be developed manually in a lengthy process. The compilation is complicated by the fact that most reports generated in FMIS are in a format (i.e., pdf) that does not allow data inputting and manipulation." Has the FHWA conducted an assessment of FMIS to determine what upgrades are needed to the system to increase its capabilities and expand its limiting functions, including the ability to generate reports in spreadsheet format? How long would it take to make these upgrades and at what cost?

RESPONSE: FHWA recognizes the shortcomings and limited functionality of the current version of the Fiscal Management Information System (FMIS), the FHWA grant management system of record. In FY 2009, FHWA conducted a study to determine whether FMIS requirements could be met by using another agency's grant management system; no existing federal grant management system was found that could meet FHWA requirements without extensive and costly reprogramming.

FHWA recently launched an internal review of FMIS and associated FHWA systems to define known and future grant management system requirements, including Federal Funding Accountability and Transparency Act and Recovery Act information needs; stakeholder data analysis objectives; and expanded query, reporting, and interface requirements. In addition, FHWA plans to consult with other DOT grant-making operating administrations to determine the feasibility of developing a multi-modal grant management system. This review is currently planned to continue through FY 2011.

The Department of Transportation is currently re-engineering business processes. An upgrade of FMIS on the same timeline would improve the likelihood of a seamless agency-wide transition of financial system support, since these systems are highly interrelated.

19.
QUESTION: In the report to Congress on Unobligated Balances in Miscellaneous Accounts, the FHWA noted that the Office of Program Administration compiles a list of projects with funds that State DOT's have confirmed will no longer be needed and the list is held and is only made available upon request by Congress. Please submit for the record the most recent copy of this list as compiled by the Office of Program Administration and indicate the date when it was conducted.

RESPONSE: To prevent a duplication of effort, FHWA conducts a review of project funds in conjunction with the annual President's Budget submission. FHWA's FY 2011 budget request includes a proposal to cancel $263.131 million in unobligated balances of funds previously made available for specific projects designated by Congress in Acts prior to 1992. A list of all the projects affected by this proposal is included in the response to question 14, which reflects an additional $2.7 million in unobligated balances that was identified after the submission of the President's budget.

20.
QUESTION: How frequently does the FHWA conduct such a review of these projects and how many reviews have been conducted since the Committee on Appropriations directed the agency to draft the report on unobligated balances?

RESPONSE: FHWA typically conducts this type of review annually in conjunction with the development of the President's Budget submission. The last review was conducted as part of the FY 2011 budget process.

EXEMPT PROGRAMS

21.
QUESTION: Please provide a table that lists the obligations and end-of-year unobligated balances for each program that is exempt from the Federal-aid highway program obligation limitation for fiscal years 2007, 2008, and 2009.

RESPONSE: Please see the following table.

	FY07		**FY08**		**FY09**	
Program Name	**Obligations[1]**	**Unobligated Balance[2]**	**Obligations[1]**	**Unobligated Balance[2]**	**Obligations[1]**	**Unobligated Balance[2]**
Emergency Relief (PL 101-130; 103 STAT. 775; 23	-19,751	41,724,447	3,481,564	38,242,884	-575,251	38,818,135

	FY07		FY08		FY09	
Program Name	**Obligations**[1]	**Unobligated Balance**[2]	**Obligations**[1]	**Unobligated Balance**[2]	**Obligations**[1]	**Unobligated Balance**[2]
USC 125)						
Emergency Relief	-200,243	12,882,705	7,839,771	7,636,472	1,979,771	5,901,955
Emergency Relief, California Earthquake 1994 (PL 103-211)	-49,811	51,792,172	0	51,792,172	21,176,152	30,616,020
Emergency Relief, PL 103-211	-1,673,262	14,420,318	11,996,551	2,423,767	-380,862	2,804,630
Emergency Relief, Loma Prieta, California Earthquake	-18,095	10,614,690	-27,320	10,642,010	0	10,642,010
Emergency Relief Supplemental	-3,293,540	82,225,502	10,037,005	72,075,109	39,554,911	32,520,198
Supplemental for NE & NW Floods	-52,988	680,919	71,989	608,930	374,602	234,329
Supplemental ER PL 104-208	-24,442	4,697,792	332,565	4,365,226	127,502	4,237,724
Supplemental ER PL 105-18	-220,730	19,110,807	12,237,338	6,873,470	-93,405	6,966,875
Emergency Relief Supplemental	8,983,034	183,853,898	4,579,482	178,620,160	25,149,835	153,470,325
Supplemental ER PL 105-174	-581,655	9,905,103	-1,836,392	11,742,496	179,513	11,562,982
Emergency Relief[3]	94,678,160	86,455,461	78,653,599	97,801,862	112,350,210	75,451,652
Emergency Relief Supplemental	-56,348,865	102,297,288	19,122,628	83,992,752	-6,561,162	90,553,914
Acceleration of Bridge Projects[5]	-409	10,185,675	-270,000	5,049,688	-7,305	5,056,994
Demonstration Projects, Section 149B[5]	-2,048,715	11,248,875	-870,669	11,138,534	-170,909	11,309,443
Section 149C Minimum Allocation for Demo	0	3,895,269	41,270	3,853,998	2,421,027	1,432,972
High Cost Projects	-320,262	22,278,132	-141,789	22,419,920	443,602	21,976,319
Congestion Relief Projects	1,284,639	12,809,695	-2,857,894	15,472,052	-238,791	15,710,843
High Priority Corridors	2,221,655	16,828,718	537,222	16,290,068	-113,594	16,403,662
High Priority Corridors Feasibility Studies	-1,089,294	7,664,653	-1,075,825	8,740,477	-425,081	9,165,558
Rural Access Projects	1,632,194	23,332,244	-2,304,995	25,636,536	-357,998	25,994,534

	FY07		FY08		FY09	
Program Name	**Obligations[1]**	**Unobligated Balance[2]**	**Obligations[1]**	**Unobligated Balance[2]**	**Obligations[1]**	**Unobligated Balance[2]**
Urban Access & Mobility Projects	897,660	32,335,853	-1,635,076	32,942,592	2,992,169	29,950,423
Innovative Projects	-4,242,706	103,561,335	7,586,849	95,909,136	14,731,720	81,177,416
Priority Intermodal Project	-337,670	46,931,189	800,400	46,130,789	1,573,919	44,556,871
Equity Bonus [4]	561,082,412	517,417,137	547,434,169	608,982,968	780,154,500	347,609,811
Shakwak Alaska / Alaska MarineHighway	27,290,802	0	0	0	0	0
Woodrow Wilson Bridge[5]	-10,847	34,053	0	26,501	3,294	23,206
Union Station Redevelopment [5]	0	1,054,608	0	0	0	0
Woodrow Wilson Bridge	-670,058	4,743,870	-2,731,002	7,474,871	-8,900,877	16,375,748
Total	**630,427,658**	**1,260,744,678**	**694,593,557**	**713,410,642**	**985,171,882**	**1,035,533,803**

[1] Total obligations by fiscal year.

[2] End-of-year unobligated balance. Includes any new authority and enacted rescissions.

[3] The ER Program is authorized $100M in contract authority annually. Of that amount, $10M is designated for the ERFO portion of the program, leaving $90M in new authority available in addition to the carryover balance from the previous fiscal year.

[4] The Equity Bonus program is authorized $639M in contract authority annually.

[5] Section 1603 of SAFETEA-LU allowed for unobligated balances of inactive project to be reprogrammed. Differences in the unobligated balances from FY 2007 and FY 2008 are a result of the conversion of some of those project funds.

FUNDING AUTHORIZATIONS

22.

QUESTION: Please provide a table that compares the programmatic funding authorizations for the FHWA for fiscal years 2009, 2010, and 2011. For fiscal year 2011, show both the partial year amount provided by the current authorization extension and the annualized amount for each program assuming that the funding will be provided at the same rate for the remainder of the fiscal year.

RESPONSE: Please see the following table.

HIGHWAY TRUST FUND

23.
QUESTION: Please provide a table that shows the projected end of year balance for the Highway Account of the Highway Trust Fund under the President's budget request for each of the fiscal years 2009, 2010, and 2011. Please include projected revenues and outlays for each year.

RESPONSE: Please see the following table.

24.
QUESTION: Provide a table showing the actual receipts, outlays, and beginning of year and end of year cash balance of the Highway Account of the Highway Trust Fund for each year since 1954 ending with 2009. Include a column for cash transfers from the General Fund.

RESPONSE: Please see the following table.

HIGHWAY TRUST FUND TAXES

25.
QUESTION: What are the various types of taxes that are deposited into the Highway Trust Fund? Please include a brief description of each and a table that shows the amount of each tax collected in fiscal year 2009 and what percent of the total Highway Trust Fund deposits each tax represents.

RESPONSE: Please see the following table.

26.
QUESTION: How have these proportions changed from 1997?

RESPONSE: Please see the following table.

FEDERAL SPENDING SOURCES

27.
QUESTION: Please provide a table that shows Federal spending (budget authority and obligation limitations) from the General Fund and the Highway Trust Fund for the highway program since 1997. Include a total column for each year as well as percentage shares for each funding source.

RESPONSE: Please see the following table.

TOTAL HIGHWAY SPENDING

28.
QUESTION: What is the total magnitude of spending on roads and highways in the United States and how has that changed over the past 10 years?

RESPONSE: The following table shows the total spending on highways and streets, at the Federal, State and local level, over the last ten years. These figures reflect a broad range of highway-related spending including highway capital outlay, maintenance, traffic services, administration, research, highway law enforcement, safety, interest, and bond redemptions.

Total Spending On Highways and Streets in the U.S.

($ in millions)

Year	$	% Change
2008	182,058	1
2007	181,061	11
2006	163,532	7
2005	153,169	4
2004	147,489	3
2003	143,605	6
2002	135,930	4
2001	130,829	7
2000	122,697	6
1999	115,864	7
1998	107,973	

Source: Federal Highway Administration, Funding for Highways and Disposition of Highway-User Revenues, All Units of Government, as reported in Highway Statistics publication years 1998 – 2008, Table HF-10.

29.
QUESTION: How does this spending break down among Federal, State, and local governments?

RESPONSE: For the most recent data available (1998-2008), the distribution of spending on roads and highways in the United States among the levels of government follows. These figures reflect a broad range of highway-related spending including highway capital outlay, maintenance, traffic services, administration, research, highway law enforcement, safety, interest, and bond redemptions.

Spending on Roads and Highways Among Levels of Government ($ in millions)

Year	Federal		State		Local		Total
	$	%	$	%	$	%	
2008	39,983	22	90,567	50	51,508	28	182,058
2007	37,037	20	94,085	52	49,939	28	181,061
2006	36,329	22	77,354	47	49,849	30	163,532
2005	35,089	23	75,313	49	42,767	28	153,169
2004	33,097	22	72,833	49	41,559	28	147,489
2003	33,023	23	71,926	50	38,656	27	143,605
2002	32,817	24	69,009	51	34,104	25	135,930
2001	30,044	23	66,270	51	34,515	26	130,829
2000	27,472	22	62,674	51	32,551	27	122,697
1999	23,191	20	60,951	53	31,722	27	115,864
1998	20,547	19	59,665	55	27,762	26	107,974

Source: Federal Highway Administration, Funding for Highways and Disposition of Highway-User Revenues, All Units of Government, as reported in Highway Statistics publication years 1998 – 2008, Table HF-10.

30.
QUESTION: Considering State and local revenue sources, how much is from taxes on motor fuels, tolls, general funds, etc? Please break down those sources and provide national totals and percentages for each source.

RESPONSE: The following table shows the breakdown of major revenue sources by level of government for the year 2008 (the most recent data available):

Major Revenue Sources by Level of Government for 2008

($ in billions)

Source	Federal		State		Local		Total
	$	%	$	%	$	%	$
Motor fuel taxes	26	62	30	31	1	3	58
Vehicle taxes	5	11	21	22	1	2	27
Tolls	0	0	8	8	2	3	9
Property taxes	0	0	0	0	8	16	8
General fund sources	11	25	7	7	23	43	40
Other taxes and fees	0	0	7	7	5	9	12
Investment income	0	0	11	11	7	13	17
Bond issue proceeds	0	0	14	15	6	11	20
Total	$42	100%	$98	100%	$53	100%	$193

31.
QUESTION: Which States have prominent receipts from toll facilities?

RESPONSE: The following eight States register the largest toll receipts:

1. New York	$1,624,617,000
2. Florida	$1,064,572,000
3. New Jersey	$949,456,000
4. Illinois	$894,083,000
5. Pennsylvania	$873,859,000
6. California	$503,083,000
7. Massachusetts	$461,872,000
8. Texas	$342,113,000

Source: Federal Highway Administration, Table SF-3B, Receipts of State-Administered Toll Road and Crossing Facilities, as reported in Highway Statistics publication year 2008.

BYRD TEST

32.
QUESTION: There is a provision in the Internal Revenue Code that is intended to ensure that there is enough money in the Highway Trust Fund to make reimbursements to the States. This test, known as the Byrd Amendment, was named for Senator Harry Byrd of Virginia who had concerns about the solvency of the Highway Trust Fund back in 1956. The "Byrd Test" looks at the outstanding commitments of the Highway Account and compares them to revenues anticipated to be earned by the Account in future fiscal years. The current surface transportation authorization bill, SAFETEA LU, modified the Byrd Test and essentially made it meaningless. Instead of looking at two years worth of future revenue, the Test now looks at four years of revenue.

Please provide a table that shows the Byrd Test headroom for each of the fiscal years 2009 through 2011 under the current four-year revenue outlook. For comparison purposes, please also show what the Byrd Test headroom would be for each of these years if the Test had kept its two-year revenue outlook.

RESPONSE: Please see the following table.

ADMINISTRATIVE EXPENSES

33.
QUESTION: Section 104(a) of title 23, United States Code, provides contract authority to pay for the administrative expenses of the FHWA, which is then subject to an annual limitation on obligations set in the Appropriations Act. Please provide a table that calculates for fiscal years 2009, 2010, and 2011 the balance of contract authority available given the new authority provided each year and the annual obligation limitation placed on administrative expenses. Please take into account any additional funding provided to other agencies and the actual amount of obligations incurred where applicable. For fiscal year 2011, please assume the limitation on administrative expenses requested in the President's budget and that the amount of contract authority provided for the first quarter of the fiscal year will be extended at the same rate for the remainder of the year.

RESPONSE: Please see the following table.

TRANSIT OBLIGATIONS

34.
QUESTION: Section 104(k) of title 23, United States Code, allows highway program funds to be transferred to transit projects and, conversely, allows transit program funds to be transferred to highway projects. Please provide a table detailing the amount of highway funding that has been transferred by each State under this authority in fiscal years 2007, 2008 and 2009.

RESPONSE: Please see the following table.

Federal-Aid Funding Transferred to FTA			
State	**FY 2007**	**FY 2008**	**FY 2009**
Alaska	3,166,600	13,825,616	5,981,757
Alabama	0	6,200,522	4,834,000
Arkansas	0	1,479,706	1,505,488
Arizona	8,454,000	25,007,624	27,549,992
California	84,935,000	217,686,271	265,845,053
Colorado	257,000	16,581,875	12,921,779
Connecticut	1,880,000	709,238	11,138,694.82
Delaware	0	2,489,500	0
Florida	8,057,075	25,636,347	18,064,379
Georgia	9,234,160	7,407,200	5,500,000
Iowa	822,149	5,534,120	7,994,344
Illinois	0	7,345,141	24,416,480
Indiana	0	9,805,482	4,073,370
Kansas	0	5,257,800	6,015,447
Massachusetts	120,000	5,119,420	13,189,261
Maryland	0	48,821,141	7,047,040
Maine	491,400	5,339,500	11,325,900
Michigan	1,799,413	15,746,116	15,595,622
Minnesota	2,121,760	22,887,105	18,523,466
Missouri	1,157,650	6,334,987	11,653,985.91
Montana	259,740	2,097,635	1,257,896
North Carolina	2,170,664	29,561,874	30,415,225
North Dakota	0	1,496,045	1,367,850
New Hampshire	800,000	7,621,297	1,521,413
New Jersey	1,850,000	146,509,126	132,514,873
New Mexico	670,000	12,171,912	3,800,000
Nevada	0	4,417,400	14,000,000
New York	15,350,000	120,194,171	144,615,861
Ohio	0	32,309,048	18,685,564
Oklahoma	0	300,000	250,000
Oregon	11,694,257	36,410,022	26,527,381
Pennsylvania	1,354,400	30,149,076	54,121,211

Federal-Aid Funding Transferred to FTA			
State	**FY 2007**	**FY 2008**	**FY 2009**
Rhode Island	0	3,368,000	3,280,000
South Carolina	0	260,785	0
Tennessee	1,244,300	6,501,100	6,949,100
Texas	4,856,153	17,331,666	33,201,805
Utah	0	2,091,060	2,591,764
Virginia	19,155,875	86,053,196	118,009,335
Vermont	0	9,320,565	11,240,806
Washington	6,703,603	22,218,969	8,216,326
Wisconsin	34,400	2,411,442	400,000
Wyoming	0	917,350	945,157

Recovery Act Funding Transferred to FTA			
State	**FY 2007**	**FY 2008**	**FY 2009**
Arizona	N/A	N/A	1,047,382
California	N/A	N/A	27,245,855
Colorado	N/A	N/A	18,600,000
Connecticut	N/A	N/A	2,800,000
Florida	N/A	N/A	692,296
Georgia	N/A	N/A	25,000,000
Idaho	N/A	N/A	3,056,000
Iowa	N/A	N/A	539,424
Indiana	N/A	N/A	240,000
Kentucky	N/A	N/A	247,300
Massachusetts	N/A	N/A	12,800,000
North Carolina	N/A	N/A	4,934,000
New York	N/A	N/A	175,466,000
Oregon	N/A	N/A	14,797,713
Tennessee	N/A	N/A	500,000
Washington	N/A	N/A	425,000

35.
QUESTION: Please provide a table that lists by State the cumulative amount of highway funding that has been transferred to transit projects since 1991. Include a breakdown of the funding transferred by highway program account.

RESPONSE: Please see the following table.

36.
QUESTION: Please provide a table that lists by State the cumulative amount of highway funding that has been obligated for transit projects since 1991, identifying the city and name of each project and the account from which the funds were transferred.

RESPONSE: Since enactment of the Transportation Equity Act for the 21st Century, highway funding is transferred to the Federal Transit Administration, and project level detail is not available within FHWA's Financial Management Information System (FMIS). The following table details the amount of highway funding provided by the Intermodal Surface Transportation Efficiency Act of 1991 that was obligated on transit projects.

STATE MATCHING FUNDS

37.
QUESTION: The Federal-aid highway program is a reimbursable program, meaning that States and localities must finance highway projects with their own money first before getting paid back by the Federal government. Has the FHWA seen any indications that States are having difficulty coming up with the money to initially fund highway projects? If so, what States are having problems?

RESPONSE: Under 23 U.S.C. 121, States and localities must incur a cost that is due and payable in order to bill the Federal government for the cost incurred on an eligible project or activity. When billed, the Federal government reimburses the State at the Federal share of costs incurred.

Anecdotally, we are aware of increased financial pressure by some local public agencies and other non-State DOT grantees in coming up with the initial cash outlays for isolated projects.

APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM

38.
QUESTION: The latest cost to complete estimate for the Appalachian Development Highway System (ADHS) was prepared by the Appalachian Regional Commission (ARC) in 2007 and this cost estimate became the basis for apportioning ADHS funding starting in fiscal year 2009. Please provide a table that shows compares the distribution of ADHS funding in the last year the previous cost estimate was used with the first year funds were distributed using the 2007 cost estimate. Please include a column that calculates the difference for each State.

RESPONSE: The table below shows the apportionment of Appalachian Development Highway System (ADHS) Program funds in fiscal year 2008 (based on the 2002 cost-to-complete estimate, no minimum or maximum apportionment) compared to the apportionment of ADHS funds in fiscal year 2009 (based on the 2007 cost-to-complete estimate, a 1 percent minimum apportionment, and a 25 percent maximum apportionment).

FHWA Comparison of Apportionments of ADHS Funds			
	Fiscal Year 2008	**Fiscal Year 2009**	
State	**2002 Cost-to-Complete**	**2007 Cost-to-Complete**	**Difference**
Alabama	29,235,269	117,500,000	88,264,731
Alaska	0	0	0
Arizona	0	0	0
Arkansas	0	0	0
California	0	0	0
Colorado	0	0	0
Connecticut	0	0	0
Delaware	0	0	0
District of Columbia	0	0	0
Florida	0	0	0
Georgia	17,918,327	11,848,888	-6,069,439
Hawaii	0	0	0
Idaho	0	0	0
Illinois	0	0	0
Indiana	0	0	0
Iowa	0	0	0
Kansas	0	0	0
Kentucky	68,566,655	39,080,829	-29,485,826
Louisiana	0	0	0
Maine	0	0	0
Maryland	6,413,573	13,696,458	7,282,885
Massachusetts	0	0	0
Michigan	0	0	0
Minnesota	0	0	0
Mississippi	5,302,070	5,019,271	-282,799
Missouri	0	0	0
Montana	0	0	0
Nebraska	0	0	0
Nevada	0	0	0
New Hampshire	0	0	0
New Jersey	0	0	0
New Mexico	0	0	0
New York	22,572,737	9,398,684	-13,174,053
North Carolina	38,236,380	32,921,949	-5,314,431
North Dakota	0	0	0
Ohio	20,522,597	22,703,303	2,180,706

FHWA Comparison of Apportionments of ADHS Funds			
	Fiscal Year 2008	Fiscal Year 2009	
State	2002 Cost-to-Complete	2007 Cost-to-Complete	Difference
Oklahoma	0	0	0
Oregon	0	0	0
Pennsylvania	103,414,711	111,768,068	8,353,357
Rhode Island	0	0	0
South Carolina	2,904,553	7,174,268	4,269,715
South Dakota	0	0	0
Tennessee	34,970,256	24,658,362	-10,311,894
Texas	0	0	0
Utah	0	0	0
Vermont	0	0	0
Virginia	33,434,766	38,090,868	4,656,102
Washington	0	0	0
West Virginia	86,508,106	36,139,052	-50,369,054
Wisconsin	0	0	0
Wyoming	0	0	0
TOTAL	**470,000,000**	**470,000,000**	**0**

39.
QUESTION: Please provide a table that shows each State's share of the remaining costs to complete the ADHS both in terms of actual dollars and as a percentage.

RESPONSE: Please see the following table.

State	Remaining Funding Needs to Complete the ADHS	Funding Needs as a Percentage of the Total Needs
Alabama	$2,248,561,000	34.7%
Georgia	$102,132,000	1.6%
Kentucky	$491,168,000	7.6%
Maryland	$128,524,000	2.0%
Mississippi	$4,560,000	0.1%
New York	$67,125,000	1.0%
North Carolina	$403,182,000	6.2%
Ohio	$257,197,000	4.0%
Pennsylvania	$1,529,580,000	23.6%
South Carolina	$35,350,000	0.5%
Tennessee	$285,126,000	4.4%

Virginia	$477,021,000	7.4%
West Virginia	$449,139,000	6.9%
Total	**$6,478,665,000**	**100.0%**

40.
QUESTION: Please provide a table that lists by State the number of total authorized miles for the ADHS, the number of uncompleted ADHS miles, and a comparison of each State's uncompleted miles as a percent of the total uncompleted.

RESPONSE: Please see the following table.

Uncompleted ADHS Miles			
State	**Total Miles Authorized**	**# of Miles Uncompleted**	**% of Total Uncompleted Miles**
Alabama	295.7	129	19.90%
Georgia	132.5	31.6	4.90%
Kentucky	426.3	31.1	4.80%
Maryland	83.2	6.2	1.00%
Mississippi	117.5	20.5	3.20%
New York	222	10.4	1.60%
North Carolina	204.3	28.9	4.50%
Ohio	201.5	23.3	3.60%
Pennsylvania	453.1	151.3	23.30%
South Carolina	22.9	4.3	0.70%
Tennessee	329.3	108.4	16.70%
Virginia	192.2	31.5	4.90%
West Virginia	409.6	71.6	11.00%
Total	**3090.1**	**648.1**	**100.00%**

41.
QUESTION: Please provide a table showing the year-by-year, State-by-State funding provided for ADHS construction since the ADHS program was first authorized and include totals for each year and State.

RESPONSE: Please see the following table.

42.
QUESTION: Please provide a table that shows the unobligated balances of ADHS funds by State as of the end of the fiscal year for each of the last three fiscal years, 2007, 2008, and 2009.

RESPONSE: Please see the following table.

ADHS Unobligated Balances for FY 2007, FY 2008 and FY 2009

State	FY 2007	FY 2008	FY 2009
Alabama	$19,711,972.92	$14,704,384.19	$12,442,356.66
Georgia	$164,971,321.46	$183,586,332.73	$189,785,304.73
Kentucky	$198,487,349.41	$257,031,273.33	$212,570,428.54
Maryland	$42,544,548.00	$48,018,786.00	$58,243,872.00
Mississippi	$10,738,182.00	$12,596,724.25	$4,348,227.25
New York	$18,255,156.79	$30,024,177.79	$19,362,428.97
North Carolina	$148,886,663.57	$177,791,664.57	$179,149,010.57
Ohio	$32,808,649.82	$48,039,919.53	$64,600,998.64
Pennsylvania	$115,197,316.44	$140,535,050.10	$175,059,195.51
South Carolina	$4,022,342.27	$6,724,756.79	$1,961,266.00
Tennessee	$285,099,437.97	$305,102,760.29	$273,054,022.09
Virginia	$121,880,569.52	$86,585,018.52	$105,163,704.27
West Virginia	$110,649,822.43	$105,257,136.00	$72,121,712.00
Total	**$1,273,253,332.60**	**$1,415,997,984.09**	**$1,367,862,527.23**

43.
QUESTION: Please provide a table that shows for fiscal year 2009 the end of year unobligated balance of ADHS funds by State, the corresponding unused no-year obligation authority for the ADHS program, and the ratio of this unused no-year obligation authority to the unobligated contract authority.

RESPONSE: Please see the following table.

FY 2009 Ratio of Unused ADHS Special Limitation to Unobligated Balance of ADHS Funds

State	ADHS Unobligated Balance	ADHS Unused Special Limitation	Ratio
Alabama	$12,002,097	$2,985,183	0.2487
Georgia	$187,136,541	$173,953,357	0.9296
Kentucky	$208,856,131	$170,383,170	0.8158
Maryland	$57,973,683	$54,129,275	0.9337
Mississippi	$3,914,863	$0	0.0000

FY 2009 Ratio of Unused ADHS Special Limitation to Unobligated Balance of ADHS Funds			
State	**ADHS Unobligated Balance**	**ADHS Unused Special Limitation**	**Ratio**
New York	$14,293,428	$342	0.0000
North Carolina	$179,149,010	$169,042,311	0.9436
Ohio	$64,550,999	$49,367,922	0.7648
Pennsylvania	$174,541,687	$92,297,155	0.5288
South Carolina	$1,961,266	$0	0.0000
Tennessee	$271,561,060	$237,790,303	0.8756
Virginia	$105,163,704	$91,132,435	0.8666
West Virginia	$57,268,160	$3,797,808	0.0663
TOTAL	**$1,338,372,627**	**$1,044,879,259**	**0.7807**

44.
QUESTION: Please provide a table indicating by State the amount of National Highway System funds allocated to the ADHS since 1991.

RESPONSE: Please see the following table.

National Highway System Funds Allocated to the ADHS since 1991	
STATE	**NHS Funds**
Alabama	$7,676,807
Georgia	$20,630,062
Kentucky	$1,977,808,969
Maryland	$0
Mississippi	$18,817,800
New York	$157,289,137
North Carolina	$16,585,677
Ohio	$145,715,593
Pennsylvania	$72,609,279
South Carolina	$0
Tennessee	$68,359,898
Virginia	$5,247,728
West Virginia	$0
Region Wide Total	**$2,490,740,950**

EMERGENCY RELIEF PROGRAM

45.
QUESTION: The FHWA's Emergency Relief (ER) program has a funding level of $100 million per year that is available to respond to eligible road damage resulting from disasters or catastrophic failures. However, the number of disasters and the expense associated with the damages caused by these disasters has far exceeded $100 million a year for a very long time. In most years, it seems as though the $100 million is used up as soon as it becomes available. Yet, disasters keep occurring and States keep submitting formal requests to the FHWA to be reimbursed for eligible costs incurred in recovering from these disasters and, as a result, a backlog of requests accumulates.

What is the status of the ER program's funding and is there currently a backlog? If so, please provide a table that lists the disasters that make up this backlog, including the State, the dollar amount being requested, and a brief description of the disaster.

RESPONSE: On March 31, 2010, a nationwide ER allocation of $338.9 million was provided to 18 states and American Samoa to pay for damages caused by storms, flooding, hurricanes and other nationwide disasters. These funds were made available from the annual ER authorization, remaining carryover funds available from prior ER appropriations, and funding from the FY 2009 Continuing Appropriations Act.

Current available ER funding totals $161.5 million:

- $125.8 million remains available from the 2009 Continuing Appropriations Act (PL 110-329) to cover nationwide ER expenses.
- $35.7 million remains available from the 2006 Gulf Coast Hurricane Supplemental (PL 109-148) to cover eligible expenses related to Hurricanes Katrina, Rita, and Wilma.

Current ER requests total $352.4 million:

- Formal ER requests total $223.1 million. A formal request represents the amount of funding requested in the State's application for an allocation of ER funds in accordance with 23 U.S.C. Section 125.
- Pending ER requests total $129.3 million. A pending request is an initial best estimate of ER needs for a disaster based on preliminary damage inspections. Pending requests are updated as more accurate estimates are developed. The pending request is not a request for an actual allocation of ER funds, but serves as a working estimate for future formal requests.

Emergency Relief Requests as of 6/25/2010

State	Event	Formal Requests	Pending Requests	Subtotal by State
Alaska	AK10-1, October 2009 Flooding	1,264,000	-	1,264,000
American Samoa	AS09-1, September 29, 2009 Tsunami	39,348,345	-	39,348,345
Arizona	AZ10-1, January 2010 Winter Storm	20,000,000	-	20,000,000
Arkansas	AR10-1, October 29, 2009 Storms and Flooding	9,192,437	-	9,192,437
Colorado	CO10-1, March 8, 2010 Glenwood Canyon Rockslide	1,500,000	-	1,500,000
Connecticut	CT10-1, Spring 2010 Flooding	-	3,000,000	3,000,000
Florida	FL10-1, January 2010 Sinkholes	1,939,799	-	1,939,799
Mississippi	MS10-1, May 1-2, 2010 Severe Storms and Flooding	-	-	-
New Hampshire	NH09-1, August 3, 2009 Route 16 Slope Failure	-	2,000,000	2,000,000
North Carolina	NC10-1, October 25, 2009 I-40 Rockslide	-	-	-
North Dakota	ND10-3, Spring 2010 West James River Basin Flooding	-	3,500,000	3,500,000
Rhode Island	RI10-1, Spring 2010 Flooding	26,000,000	-	26,000,000
Tennessee	TN10-1, November 10, 2009 US 64 Rockslide	3,853,363	-	54,875,116
	TN10-2, January 19, 2010 US 64 Rockslide	1,021,753	-	
	TN10-3, April 30, 2010 Flooding	-	50,000,000	
Washington	WA01-1, February 28, 2001 Nisqually Earthquake (add'l request)	-	40,500,000	122,360,000
	WA06-1, December 19, 2005 Storm	11,360,000	-	
	WA07-1, November 2006 Storm	19,200,000	-	
	WA10-1, October 11, 2009 SR 410 Landslide	48,800,000	-	
	WA10-2, January 2010 Rainfall	-	2,500,000	
West Virginia	WV10-1, March 2010 Flooding	2,600,000	-	2,600,000
FLH Manag. Agencies	Various events	36,993,467	27,775,534	64,769,001
	Total	**223,073,164**	**129,275,534**	**352,348,698**

46.
QUESTION: Please provide a table that shows the unobligated balances of ER program funds by funding source. Please indicate how much of each balance has been reallocated to other disasters and how much remains unallocated.

RESPONSE: Please see the following table.

ER Unobligated Balances by Funding Source as of 6/25/2010

Funding Source	Current Unobligated Balance	
	Allocated Unobligated Balance	Unallocated Unobligated Balance
Annual ER authorization (23 USC 125)	86,484,082	-
PL 101-130, Fiscal Year 1990 Emergency Supplemental Act	10,893,687	-
PL 102-368, Supplemental Appropriations for Fiscal Year 1992	-	-
PL 103-75, Fiscal Year 1993 Emergency supplemental Appropriations	-	-
PL 103-211, Fiscal Year 1994 Emergency Supplemental Act	30,813,009	-
PL 104-134, Omnibus Consolidated Appropriations Act of 1996	466,881	-
PL 104-208, Omnibus Consolidated Appropriations Act, 1997	4,166,940	-
PL 105-18, 1997 Emergency Supplemental Appropriations Act	7,000,075	-
PL 105-174, Supplemental Appropriations Act, 1998	6,771,983	-
PL 106-346, DOT Appropriations, 2001	9,029,189	-
PL 107-117, Emergency Supplemental Recovery from Terrorist Attacks, 2002	71,106,356	-
PL 107-206, Supplemental Appropriations for Further Recovery from Terrorist Attacks, 2002		
PL 108-324, Emergency Hurricane Supplemental, 2005	162,521,138	-
PL 108-447, Consolidated Appropriations Act, 2005	33,607,783	-
PL 109-148, Gulf Coast Emergency Hurricane Supplemental, 2006	182,722,596	35,741,261
PL 109-234, Emergency Supplemental Appropriations Act, 2006	95,158,964	-
PL 110-28, Katrina Recovery Appropriations Act, 2007		
PL 110-161, Consolidated Appropriations Act, 2008	-	-
PL 110-329, Continuing Appropriations Act, 2009	82,976,312	125,775,980
Total	**783,718,996**	**161,517,241**

47.
QUESTION: For the unobligated amount that has been allocated to the States, please provide a list of the disasters and the amount allocated to each.

RESPONSE: Please see the following table.

Emergency Relief Fund Allocations as of March 31, 2010

State	Event	Subtotal by Event	Subtotal by State
Alabama	AL09-2, May 7, 2009 Heavy Rainfall (add'l request)	729,000.00	2,829,000.00
	AL10-1, December 2009 Heavy Rains and Flooding	2,100,000.00	
American Samoa	AS09-1, September 29, 2009 Tsunami	10,000,000.00	10,000,000.00
Arizona	AZ05-1, January 2005 Flooding	13,750,000.00	16,828,147.00
	AZ07-1, July 21-August 6, 2007 Storms and Flooding	3,078,147.00	
Arkansas	AR09-2, April 27, 2009 Storms and Flooding	861,786.00	861,786.00
Georgia	GA09-1, Spring 2009 Flooding	2,659,308.00	18,023,345.00
	GA09-2, September 2009 Rainfall and Flooding	15,364,037.00	
Illinois	IL09-1, May 8, 2009 Severe Windstorm	2,412,304.00	2,412,304.00
Indiana	IN08-2, September 12, 2008 Severe Storms and Flooding	781,333.00	781,333.00
Louisiana	LA05-1, August 29, 2005 Hurricane Katrina (additional request)	74,500,000.00	81,500,000.00
	LA08-1, September 1, 2008 Hurricane Gustav (additional request)	7,000,000.00	
Maine	ME08-2, July 18, 2008 Heavy Rains and Flooding	1,023,200.00	1,023,200.00
Michigan	MI09-1, July 15, 2009 I-75 Tanker Truck Crash	12,590,960.00	12,590,960.00
Minnesota	MN09-1, March 16-May 22, 2009 Flooding	7,800,000.00	7,800,000.00
New Hampshire	NH07-1, April 2007 Flooding - permanent repair projects	820,160.00	820,160.00
North Carolina	NC10-2, November 12, 2009 Tropical Storm Ida	1,600,000.00	1,600,000.00
North Dakota	ND05-1, SAFETEA-LU section 1937 (PL 109-59)	8,541,000.00	103,064,000.00
	ND09-1, Spring 2009 Devils Lake Basin Flooding	94,523,000.00	
Oregon	OR09-1, December 2008 Severe Winter Storms	5,000,000.00	5,000,000.00
South Dakota	SD09-1, March 2009 Rainfall and Flooding	1,847,452.00	1,847,452.00
Tennessee	TN10-1, November 10, 2009 US 64 Rock Slide	3,853,363.00	3,853,363.00
Texas	TX08-1, July 23, 2008 Hurricane Dolly	8,100,000.00	29,900,000.00
	TX08-2, September 13, 2008 Hurricane Ike	21,800,000.00	
Washington	WA06-1, December 19, 2005 Storm	1,557,000.00	38,130,000.00
	WA07-1, November 2006 Storm	10,060,000.00	
	WA08-1, December 2007 Storm	6,725,000.00	
	WA09-1, November 2008 Storm	15,410,000.00	
	WA10-1, October 11, 2009 SR 410 Landslide	4,378,000.00	
	Total	**338,865,050.00**	**338,865,050.00**

48.
QUESTION: Given that the purpose of the ER program is to quickly repair highway facilities and return them to service, how is it that States can put in requests for ER funding for disasters that occurred more than five years ago?

RESPONSE: Emergency relief funds are made available to the States in accordance with the provisions of title 23 U.S.C., section 125. When a damaged Federal-aid highway is eligible for ER funding, and additional needs later arise that are associated with the approved disaster in accordance with section 125, then ER funding may be expended toward the repairs of all eligible damage on the roadway. If ER funding needs increase due to cost overruns or additional eligible repair needs, then ER funds are eligible to assist in the damage repair work.

INNOVATIVE FINANCE

49.
QUESTION: Provide a list of what projects are currently being considered under the TIFIA program. Please include a description of the project, the type of assistance the project is seeking, the targeted approval date for the project (if known), and how much Federal funding is anticipated to be obligated for each project if approved.

RESPONSE: Please see the following table.

50.
QUESTION: Please provide a table that compares the total amount of funding available for the TIFIA program in the current fiscal year with the anticipated needs for the program based on the response to the previous question.

RESPONSE: Please see the table provided for the previous response.

STATE GASOLINE TAXES

51.
QUESTION: What are the various State gasoline taxes, by State, and what is the national average State gas tax?

RESPONSE: The following table displays the gasoline and diesel tax rates per gallon of fuel. FHWA's definition of the highway tax rate includes taxes or fees applied by certain States which target highway fuel use such as inspection fees (e.g. Alabama imposes a two-cent inspection fee), funding for petroleum clean-up funds (Rhode Island imposes a one-cent fee for the State Underground Storage Tank Financial Responsibility Fund), and for local taxes that are applied uniformly across the State (Utah has a uniform local tax collected by the State and distributed to the counties).

The weighted average national State tax rates are:

- 21.84 cents per gallon for gasoline.
- 22.85 cents per gallon for diesel.

TAX RATES PER GALLON ON MOTOR FUEL
AS OF FEBRUARY 2010

STATE	GASOLINE	DIESEL
	RATE	RATE
Alabama	18	19
Alaska	8	8
Arizona	18	26
Arkansas	21.5	22.5
California	18	18
Colorado	22	20.5
Connecticut	25	45.1
Delaware	23	22
District of Columbia	23.5	20
Florida	16.1	25.2
Georgia	7.5	7.5
Hawaii	17	17
Idaho	25	25
Illinois	19	21.5
Indiana	18	16
Iowa	21	22.5
Kansas	24	26
Kentucky	24.1	21.1
Louisiana	20	20
Maine	29.5	30.7
Maryland	23.5	24.25
Massachusetts	21	21
Michigan	19	15
Minnesota	27.1	27.1
Mississippi	18.4	18.4
Missouri	17	17
Montana	27.75	27.75
Nebraska	26.8	26.8
Nevada	24	27
New Hampshire	19.63	19.63
New Jersey	10.5	13.5
New Mexico	18.875	22.875
New York	24.35	22.55
North Carolina	30.15	30.15
North Dakota	23	23

STATE	GASOLINE RATE	DIESEL RATE
Pennsylvania	31.2	38.1
Rhode Island	31	31
South Carolina	16	16
South Dakota	22	22
Tennessee	20	17
Texas	20	20
Utah	24.5	24.5
Vermont	20	29
Virginia	17.5	17.5
Washington	37.5	37.5
West Virginia	32.2	32.2
Wisconsin	30.9	30.9
Wyoming	14	14
Federal Tax	18.4	24.4

52.
QUESTION: What are the five States with the lowest State gas tax, and what are the five States with the highest?

RESPONSE: The following States have the lowest motor fuel tax rates:

State 1/	**Gas Tax Rate**	**Diesel Tax Rate**
Georgia	7.5	7.5
Alaska	8.0	8.0
New Jersey	10.5	13.5
Wyoming	14.0	14.0
South Carolina	16.0	16.0

The following States have the highest motor fuel tax rates:

State	**Gas Tax Rate**	**Diesel Tax Rate**
Washington State	37.5	37.5
West Virginia	32.2	32.2
Pennsylvania	31.2	38.1
Rhode Island	31.0	31.0
Wisconsin	30.9	30.9(2)
Connecticut	25.0(2)	45.1

1/ Some of these States have other tax rates that may apply to motor fuel, which FHWA does not include. These tax rates do not include local gas taxes.

2/ These States gas or diesel tax rates are not one of the five highest or lowest in their respective categories, and are therefore left blank.

53.

QUESTION: What are the trends in State gas taxes over the past five years? How many have raised their tax rates and how many have lowered them?

RESPONSE: The following tables display the State motor fuel tax rates for the last six years. The overall trend is upward, as indicated by the States average rates shown at the bottom of the tables.

DEFICIENT BRIDGES

54.

QUESTION: Please provide a table that shows by State the total number of highway bridges, the number of structurally deficient bridges, the number of functionally obsolete bridges, the total number of deficient bridges, the percentage of deficient bridges, and the ranking by percent deficient.

RESPONSE: The following table presents information summarized from the latest available National Bridge Inventory data (December 2009).

National Bridge Inventory Data as of December 2009

	Number of Highway Bridges	Number Structurally Deficient	Percent Structurally Deficient	Number Functionally Obsolete	Percent Functionally Obsolete	Total Number Deficient	Percent Deficient	Rank Based on Highest % Deficient
ALABAMA	15,959	1,708	10.7%	2,247	14.1%	3,955	24.8%	30
ALASKA	1,151	139	12.1%	238	20.7%	377	32.8%	15
ARIZONA	7,489	214	2.9%	756	10.1%	970	13.0%	52
ARKANSAS	12,557	959	7.6%	2,100	16.7%	3,059	24.4%	32
CALIFORNIA	24,295	3,352	13.8%	3,995	16.4%	7,347	30.2%	18
COLORADO	8,474	605	7.1%	972	11.5%	1,577	18.6%	44
CONNECTICUT	4,186	382	9.1%	1,095	26.2%	1,477	35.3%	12
DELAWARE	862	37	4.3%	128	14.8%	165	19.1%	42
DIST. OF COL.	243	24	9.9%	163	67.1%	187	77.0%	1
FLORIDA	11,798	318	2.7%	1,825	15.5%	2,143	18.2%	46
GEORGIA	14,710	962	6.5%	1,969	13.4%	2,931	19.9%	41
HAWAII	1,133	149	13.2%	355	31.3%	504	44.5%	6
IDAHO	4,100	378	9.2%	441	10.8%	819	20.0%	40
ILLINOIS	26,263	2,416	9.2%	2,047	7.8%	4,463	17.0%	48
INDIANA	18,546	1,954	10.5%	2,521	13.6%	4,475	24.1%	33
IOWA	24,799	5,427	21.9%	1,444	5.8%	6,871	27.7%	24
KANSAS	25,543	2,919	11.4%	2,411	9.4%	5,330	20.9%	37
KENTUCKY	13,699	1,364	10.0%	3,254	23.8%	4,618	33.7%	14
LOUISIANA	13,328	1,729	13.0%	2,305	17.3%	4,034	30.3%	17
MAINE	2,394	378	15.8%	481	20.1%	859	35.9%	11
MARYLAND	5,141	374	7.3%	1,098	21.4%	1,472	28.6%	23
MASSACHUSETTS	5,037	601	11.9%	2,188	43.4%	2,789	55.4%	3
MICHIGAN	10,905	1,588	14.6%	1,601	14.7%	3,189	29.2%	21
MINNESOTA	13,131	1,212	9.2%	511	3.9%	1,723	13.1%	51
MISSISSIPPI	17,038	2,890	17.0%	1,329	7.8%	4,219	24.8%	31
MISSOURI	24,156	4,306	17.8%	3,528	14.6%	7,834	32.4%	16
MONTANA	4,984	412	8.3%	529	10.6%	941	18.9%	43
NEBRASKA	15,436	2,896	18.8%	1,081	7.0%	3,977	25.8%	27
NEVADA	1,749	44	2.5%	250	14.3%	294	16.8%	49
NEW HAMPSHIRE	2,403	382	15.9%	459	19.1%	841	35.0%	13
NEW JERSEY	6,478	701	10.8%	1,734	26.8%	2,435	37.6%	10
NEW MEXICO	3,890	385	9.9%	328	8.4%	713	18.3%	45
NEW YORK	17,372	2,164	12.5%	5,009	28.8%	7,173	41.3%	7
NORTH CAROLINA	18,006	2,449	13.6%	2,828	15.7%	5,277	29.3%	20
NORTH DAKOTA	4,437	715	16.1%	253	5.7%	968	21.8%	36
OHIO	28,116	2,865	10.2%	4,610	16.4%	7,475	26.6%	26
OKLAHOMA	23,712	5,384	22.7%	1,756	7.4%	7,140	30.1%	19
OREGON	7,215	485	6.7%	1,373	19.0%	1,858	25.8%	28
PENNSYLVANIA	22,293	6,213	27.9%	4,221	18.9%	10,434	46.8%	5
PUERTO RICO	2,181	232	10.6%	922	42.3%	1,154	52.9%	4
RHODE ISLAND	739	163	22.1%	257	34.8%	420	56.8%	2
SOUTH CAROLINA	9,253	1,257	13.6%	855	9.2%	2,112	22.8%	35
SOUTH DAKOTA	5,914	1,237	20.9%	260	4.4%	1,497	25.3%	29
TENNESSEE	19,939	1,255	6.3%	2,842	14.3%	4,097	20.5%	39

National Bridge Inventory Data as of December 2009								
	Number of Highway Bridges	Number Structurally Deficient	Percent Structurally Deficient	Number Functionally Obsolete	Percent Functionally Obsolete	Total Number Deficient	Percent Deficient	Rank Based on Highest % Deficient
TEXAS	51,136	1,787	3.5%	8,789	17.2%	10,576	20.7%	38
UTAH	2,905	173	6.0%	348	12.0%	521	17.9%	47
VERMONT	2,706	452	16.7%	594	22.0%	1,046	38.7%	9
VIRGINIA	13,529	1,251	9.2%	2,484	18.4%	3,735	27.6%	25
WASHINGTON	7,638	410	5.4%	1,804	23.6%	2,214	29.0%	22
WEST VIRGINIA	7,038	1,066	15.1%	1,666	23.7%	2,732	38.8%	8
WISCONSIN	13,917	1,212	8.7%	810	5.8%	2,022	14.5%	50
WYOMING	3,054	413	13.5%	287	9.4%	700	22.9%	34
TOTALS	**602,977**	**72,388**	**12.0%**	**87,351**	**14.5%**	**159,739**	**26.5%**	

55.
QUESTION: Please provide a similar table for bridges that are on the National Highway System.

RESPONSE: The following table presents information summarized from the latest available National Bridge Inventory data (December 2009).

National Bridge Inventory Data for Bridges on the National Highway System as of December 2009

	Number of Highway Bridges	Number Structurally Deficient	Percent Structurally Deficient	Number Functionally Obsolete	Percent Functionally Obsolete	Total Number Deficient	Percent Deficient	Rank Based on Highest % Deficient
ALABAMA	2,796	99	3.5%	563	20.1%	662	23.7%	21
ALASKA	407	37	9.1%	77	18.9%	114	28.0%	13
ARIZONA	2,623	37	1.4%	220	8.4%	257	9.8%	49
ARKANSAS	1,910	47	2.5%	249	13.0%	296	15.5%	40
CALIFORNIA	7,471	1,082	14.5%	1,095	14.7%	2,177	29.1%	11
COLORADO	2,218	140	6.3%	369	16.6%	509	22.9%	22
CONNECTICUT	1,568	71	4.5%	338	21.6%	409	26.1%	16
DELAWARE	239	3	1.3%	34	14.2%	37	15.5%	41
DIST. OF COL.	112	12	10.7%	66	58.9%	78	69.6%	1
FLORIDA	4,142	18	0.4%	471	11.4%	489	11.8%	45
GEORGIA	2,573	27	1.0%	247	9.6%	274	10.6%	47
HAWAII	425	31	7.3%	139	32.7%	170	40.0%	5
IDAHO	744	38	5.1%	152	20.4%	190	25.5%	17
ILLINOIS	3,670	265	7.2%	493	13.4%	758	20.7%	28
INDIANA	2,448	121	4.9%	410	16.7%	531	21.7%	25
IOWA	1,892	114	6.0%	176	9.3%	290	15.3%	43
KANSAS	2,417	21	0.9%	399	16.5%	420	17.4%	38
KENTUCKY	1,854	102	5.5%	369	19.9%	471	25.4%	18
LOUISIANA	2,693	81	3.0%	593	22.0%	674	25.0%	19
MAINE	454	39	8.6%	94	20.7%	133	29.3%	10
MARYLAND	1,462	41	2.8%	235	16.1%	276	18.9%	34
MASSACHUSETTS	2,017	205	10.2%	946	46.9%	1,151	57.1%	2
MICHIGAN	2,541	249	9.8%	442	17.4%	691	27.2%	15
MINNESOTA	1,710	60	3.5%	106	6.2%	166	9.7%	50
MISSISSIPPI	2,179	30	1.4%	372	17.1%	402	18.4%	36
MISSOURI	2,755	126	4.6%	425	15.4%	551	20.0%	29
MONTANA	1,264	20	1.6%	232	18.4%	252	19.9%	30
NEBRASKA	1,276	44	3.4%	52	4.1%	96	7.5%	51
NEVADA	798	7	0.9%	143	17.9%	150	18.8%	35
NEW HAMPSHIRE	677	47	6.9%	102	15.1%	149	22.0%	24
NEW JERSEY	2,512	168	6.7%	627	25.0%	795	31.6%	9
NEW MEXICO	1,796	95	5.3%	108	6.0%	203	11.3%	46
NEW YORK	3,565	262	7.3%	1,199	33.6%	1,461	41.0%	4
NORTH CAROLINA	2,802	174	6.2%	417	14.9%	591	21.1%	27
NORTH DAKOTA	526	10	1.9%	12	2.3%	22	4.2%	52
OHIO	4,174	202	4.8%	808	19.4%	1,010	24.2%	20

National Bridge Inventory Data for Bridges on the National Highway System as of December 2009								
	Number of Highway Bridges	Number Structurally Deficient	Percent Structurally Deficient	Number Functionally Obsolete	Percent Functionally Obsolete	Total Number Deficient	Percent Deficient	Rank Based on Highest % Deficient
OKLAHOMA	2,739	243	8.9%	287	10.5%	530	19.4%	32
OREGON	1,556	66	4.2%	375	24.1%	441	28.3%	12
PENNSYLVANIA	4,310	623	14.5%	1,032	23.9%	1,655	38.4%	6
PUERTO RICO	603	61	10.1%	103	17.1%	164	27.2%	14
RHODE ISLAND	269	57	21.2%	78	29.0%	135	50.2%	3
SOUTH CAROLINA	1,377	103	7.5%	193	14.0%	296	21.5%	26
SOUTH DAKOTA	816	16	2.0%	92	11.3%	108	13.2%	44
TENNESSEE	3,123	60	1.9%	439	14.1%	499	16.0%	39
TEXAS	15,496	121	0.8%	2,274	14.7%	2,395	15.5%	42
UTAH	1,121	49	4.4%	155	13.8%	204	18.2%	37
VERMONT	471	45	9.6%	117	24.8%	162	34.4%	7
VIRGINIA	3,326	119	3.6%	518	15.6%	637	19.2%	33
WASHINGTON	2,287	121	5.3%	638	27.9%	759	33.2%	8
WEST VIRGINIA	1,149	115	10.0%	148	12.9%	263	22.9%	23
WISCONSIN	2,741	87	3.2%	184	6.7%	271	9.9%	48
WYOMING	1,325	140	10.6%	120	9.1%	260	19.6%	31
TOTALS	**117,419**	**6,151**	**5.2%**	**19,533**	**16.6%**	**25,684**	**21.9%**	

56.
QUESTION: Please provide a similar table for bridges that are on the Interstate System.

RESPONSE: The following table presents information summarized from the latest available National Bridge Inventory data (December 2009).

National Bridge Inventory Data for Bridges on the Interstate System as of December 2009								
	Number of Highway Bridges	Number Structurally Deficient	Percent Structurally Deficient	Number Functionally Obsolete	Percent Functionally Obsolete	Total Number Deficient	Percent Deficient	Rank Based on Highest % Deficient
ALABAMA	1,163	24	2.1%	218	18.7%	242	20.8%	34
ALASKA	184	17	9.2%	33	17.9%	50	27.2%	17
ARIZONA	1,542	27	1.8%	144	9.3%	171	11.1%	47
ARKANSAS	806	13	1.6%	87	10.8%	100	12.4%	46
CALIFORNIA	3,749	567	15.1%	490	13.1%	1,057	28.2%	14
COLORADO	1,135	74	6.5%	240	21.1%	314	27.7%	16
CONNECTICUT	835	41	4.9%	163	19.5%	204	24.4%	26
DELAWARE	91	1	1.1%	20	22.0%	21	23.1%	28
DIST. OF COL.	63	5	7.9%	33	52.4%	38	60.3%	1
FLORIDA	1,789	6	0.3%	174	9.7%	180	10.1%	50
GEORGIA	1,001	6	0.6%	67	6.7%	73	7.3%	51
HAWAII	219	10	4.6%	48	21.9%	58	26.5%	18

National Bridge Inventory Data for Bridges on the Interstate System as of December 2009

	Number of Highway Bridges	Number Structurally Deficient	Percent Structurally Deficient	Number Functionally Obsolete	Percent Functionally Obsolete	Total Number Deficient	Percent Deficient	Rank Based on Highest % Deficient
IDAHO	392	16	4.1%	128	32.7%	144	36.7%	7
ILLINOIS	2,269	133	5.9%	314	13.8%	447	19.7%	37
INDIANA	1,497	75	5.0%	317	21.2%	392	26.2%	19
IOWA	642	64	10.0%	90	14.0%	154	24.0%	27
KANSAS	1,030	9	0.9%	288	28.0%	297	28.8%	11
KENTUCKY	755	75	9.9%	157	20.8%	232	30.7%	9
LOUISIANA	1,557	37	2.4%	345	22.2%	382	24.5%	25
MAINE	280	25	8.9%	60	21.4%	85	30.4%	10
MARYLAND	874	26	3.0%	145	16.6%	171	19.6%	39
MASSACHUSETTS	930	53	5.7%	481	51.7%	534	57.4%	2
MICHIGAN	1,195	143	12.0%	201	16.8%	344	28.8%	12
MINNESOTA	726	32	4.4%	46	6.3%	78	10.7%	48
MISSISSIPPI	766	3	0.4%	265	34.6%	268	35.0%	8
MISSOURI	1,006	41	4.1%	188	18.7%	229	22.8%	29
MONTANA	818	10	1.2%	201	24.6%	211	25.8%	22
NEBRASKA	338	11	3.3%	25	7.4%	36	10.7%	49
NEVADA	519	5	1.0%	111	21.4%	116	22.4%	31
NEW HAMPSHIRE	363	28	7.7%	51	14.0%	79	21.8%	32
NEW JERSEY	1,053	40	3.8%	235	22.3%	275	26.1%	21
NEW MEXICO	886	59	6.7%	59	6.7%	118	13.3%	44
NEW YORK	2,169	144	6.6%	728	33.6%	872	40.2%	4
NORTH CAROLINA	1,087	43	4.0%	185	17.0%	228	21.0%	33
NORTH DAKOTA	205	5	2.4%	7	3.4%	12	5.9%	52
OHIO	2,207	109	4.9%	468	21.2%	577	26.1%	20
OKLAHOMA	1,100	107	9.7%	169	15.4%	276	25.1%	23
OREGON	643	31	4.8%	153	23.8%	184	28.6%	13
PENNSYLVANIA	2,050	221	10.8%	548	26.7%	769	37.5%	5
PUERTO RICO	415	53	12.8%	51	12.3%	104	25.1%	24
RHODE ISLAND	134	22	16.4%	36	26.9%	58	43.3%	3
SOUTH CAROLINA	708	19	2.7%	93	13.1%	112	15.8%	41
SOUTH DAKOTA	459	7	1.5%	83	18.1%	90	19.6%	38
TENNESSEE	1,414	23	1.6%	201	14.2%	224	15.8%	40
TEXAS	5,425	43	0.8%	739	13.6%	782	14.4%	43
UTAH	850	39	4.6%	135	15.9%	174	20.5%	35
VERMONT	313	22	7.0%	95	30.4%	117	37.4%	6
VIRGINIA	1,672	51	3.1%	212	12.7%	263	15.7%	42
WASHINGTON	943	44	4.7%	219	23.2%	263	27.9%	15
WEST VIRGINIA	655	48	7.3%	84	12.8%	132	20.2%	36
WISCONSIN	1,098	48	4.4%	98	8.9%	146	13.3%	45
WYOMING	923	96	10.4%	113	12.2%	209	22.6%	30
TOTALS	**54,943**	**2,851**	**5.2%**	**9,841**	**17.9%**	**12,692**	**23.1%**	

57.
QUESTION: Please provide a table that shows for each State the most recent cost estimate to repair or replace all of the deficient bridges in each State and the State's relative share of the national total.

RESPONSE: For the purpose of apportioning Highway Bridge Program (HBP) funds per 23 U.S.C. 144(e), FHWA utilizes a replacement cost for deficient bridges that is based on an average bridge construction unit cost. This average bridge construction unit cost is a per state cost, not a national cost. The bridge construction unit cost includes typical construction activities directly related to the bridge replacement. Bridge construction unit costs do not account for some activities that are beyond the bridge foot print, or could be shared with roadway portions of a project, such as approach roadway, mobilization and traffic control. Additionally, construction costs for certain bridge types, such as cable-stayed bridges, are excluded from the average bridge construction unit cost due to their unique design and construction. The cost used for bridge rehabilitation is assumed as two-thirds of the replacement cost.

Once an average bridge construction unit cost is determined for each state, this value is multiplied by the State's needs for certain populations of bridges. Per 23 U.S.C. 144(e), the needs are determined by the sum of: a State's average bridge construction unit cost multiplied by the State's deficient deck area for federal-aid highway bridges eligible for replacement; two-thirds of a State's average bridge construction unit cost multiplied by the State's deficient deck area for federal-aid highway bridge eligible for rehabilitation; a State's average bridge construction unit cost multiplied by the State's deficient deck area for bridges not on federal-aid highways eligible for replacement; and two-thirds of a State's average bridge construction unit cost multiplied by the State's deficient deck area for bridges not on federal-aid highways eligible for rehabilitation. The sum of all of the States' needs is the nation's cost of deficient bridges.

The cost of deficient bridges determined as described above is considered an approximation. The methodology and assumptions used to calculate the cost introduce complexities that limit its use as an accurate indication of the actual costs to replace or rehabilitate deficient bridges. Additionally, a State's decision-making process for determining which structures to replace or rehabilitate is applied on a bridge-specific basis and cannot be done on an aggregated nation basis. Bridge specific factors that greatly influence the actual costs include the complexity of the design and construction, the location, and the need to maintain mobility.

The following cost of deficient bridges was determined in accordance with the process outlined in 23 U.S.C. 144 and described in the preceding paragraphs:

Cost of Deficient Bridges by State		
State	**Cost of Deficient Bridges**	**State's Relative Share (Percent)**
AL	$1,097,082,026	1.43
AK	$199,134,571	0.26
AZ	$338,537,665	0.44
AR	$976,690,298	1.27

Cost of Deficient Bridges by State		
State	Cost of Deficient Bridges	State's Relative Share (Percent)
CA	$8,126,878,911	10.60
CO	$547,712,500	0.71
CT	$2,501,360,906	3.26
DE	$228,808,899	0.30
DC	$410,413,923	0.54
FL	$1,484,048,062	1.94
GA	$950,903,219	1.24
HI	$520,580,579	0.68
ID	$315,707,923	0.41
IL	$1,987,793,595	2.59
IN	$1,056,606,900	1.38
IA	$1,000,573,130	1.31
KS	$771,527,933	1.01
KY	$1,063,293,208	1.39
LA	$2,685,677,391	3.50
ME	$569,682,478	0.74
MD	$1,915,617,583	2.50
MA	$3,153,928,387	4.12
MI	$1,646,812,993	2.15
MN	$469,073,775	0.61
MS	$729,897,150	0.95
MO	$1,716,657,911	2.24
MT	$233,270,127	0.30
NE	$451,330,399	0.59
NV	$79,134,307	0.10
NH	$395,486,396	0.52
NJ	$3,101,587,725	4.05
NM	$210,770,964	0.28
NY	$9,440,313,269	12.32
NC	$1,891,093,133	2.47
ND	$100,769,517	0.13
OH	$2,532,084,174	3.30
OK	$1,237,437,804	1.61
OR	$1,349,229,015	1.76
PA	$8,014,810,522	10.46
RI	$1,003,129,812	1.31
SC	$793,663,403	1.04
SD	$194,437,698	0.25
TN	$781,956,970	1.02
TX	$2,187,932,682	2.85
UT	$147,164,790	0.19
VT	$467,100,135	0.61

Cost of Deficient Bridges by State		
State	**Cost of Deficient Bridges**	**State's Relative Share (Percent)**
VA	$1,724,982,648	2.25
WA	$2,597,492,803	3.39
WV	$831,007,639	1.08
WI	$318,119,903	0.42
WY	$94,494,362	0.12
Totals	**$76,643,802,111**	

58.
QUESTION: Provide a table that shows the apportionment of highway bridge program funds by State for fiscal years 2008, 2009, and 2010.

RESPONSE: The following table shows the apportionments of Highway Bridge Program funds for the fiscal years 2008, 2009, and 2010.

FHWA Apportionments of Highway Bridge Program			
State	**Fiscal Year 2008**	**Fiscal Year 2009**	**Fiscal Year 2010***
Alabama	65,714,475	62,824,611	68,632,958
Alaska	12,841,276	12,940,314	22,476,110
Arizona	16,594,087	19,480,106	20,114,041
Arkansas	52,692,095	55,887,084	64,101,983
California	422,451,866	429,256,634	478,240,113
Colorado	31,539,235	32,493,967	35,810,624
Connecticut	141,715,178	127,691,078	140,298,568
Delaware	12,793,652	10,731,416	12,504,967
District of Columbia	29,818,977	26,141,911	29,663,764
Florida	95,086,816	91,312,795	97,291,245
Georgia	58,721,581	56,928,145	61,041,374
Hawaii	22,806,986	28,710,545	32,454,231
Idaho	17,429,786	18,185,759	20,088,731
Illinois	119,761,099	115,836,622	136,191,498
Indiana	53,888,776	57,935,376	61,441,269
Iowa	61,559,689	55,992,439	64,241,934
Kansas	45,830,421	43,144,227	46,293,670
Kentucky	56,468,825	60,070,229	66,451,655
Louisiana	169,856,799	171,748,260	193,908,909
Maine	31,737,609	28,991,777	34,056,477

FHWA Apportionments of Highway Bridge Program			
State	**Fiscal Year 2008**	**Fiscal Year 2009**	**Fiscal Year 2010***
Maryland	98,398,577	105,117,894	113,591,120
Massachusetts	179,297,812	182,654,222	194,685,232
Michigan	99,442,156	101,565,876	108,746,024
Minnesota	28,934,461	31,503,007	35,432,779
Mississippi	56,974,971	50,956,670	57,317,236
Missouri	111,511,024	110,423,034	124,755,012
Montana	11,922,604	12,317,366	14,630,271
Nebraska	24,049,359	23,139,330	25,331,455
Nevada	10,561,297	10,731,416	13,976,267
New Hampshire	23,529,783	21,333,507	22,674,618
New Jersey	160,190,490	172,163,924	186,969,407
New Mexico	12,582,418	12,436,881	13,488,398
New York	422,451,866	429,256,634	464,451,143
North Carolina	106,971,523	110,387,829	117,176,124
North Dakota	10,561,297	10,731,416	11,936,383
Ohio	139,065,827	150,832,751	163,004,792
Oklahoma	67,433,016	69,703,633	80,501,324
Oregon	76,450,039	77,201,749	91,528,168
Pennsylvania	396,629,886	429,256,634	460,078,015
Rhode Island	64,314,661	71,488,933	83,231,762
South Carolina	49,114,618	47,174,371	51,011,817
South Dakota	12,168,232	10,731,416	12,542,850
Tennessee	50,844,669	48,225,560	53,484,773
Texas	136,715,255	135,932,656	141,939,209
Utah	10,850,592	10,731,416	12,341,014
Vermont	29,629,458	29,215,167	37,563,345
Virginia	86,351,630	96,325,080	105,654,209
Washington	147,180,739	146,002,200	162,334,599
West Virginia	48,810,480	49,652,743	58,853,050
Wisconsin	21,709,391	18,338,315	20,106,142
Wyoming	10,561,297	10,731,416	11,397,209
TOTAL	**4,224,518,656**	**4,292,566,341**	**4,736,037,868**

* Inclusive of programmatic distribution to core apportioned programs under sections 411(d)(1) and (4) of Public Law 111-147; after reconciliation of funds under section 414 of Public Law 111-147.

59.

QUESTION: Section 126 of title 23, United States Code, allows States to transfer bridge program funds to other Federal-aid highway programs. Please provide a table that shows which States transferred bridge program funds in fiscal year 2009, the amount transferred, and the programs to which the funds were transferred.

RESPONSE: Please see the following tables.

Bridge Program Funds Transferred by State	
State	**Amount Transferred FY 2009**
Arizona	$36,949,565
Indiana	$60,000,000
Missouri	$15,000,000
Nevada	$5,363,180
Ohio	$158,426,572
Oregon	$37,000,000
Total	**$312,739,317**

Highway Bridge Program Funds Transferred to Other Federal-aid Highway Programs Fiscal Year 2009

State	**From Program**	**To Program**	**Transferred Amount**
Arizona	Bridge Program - 85% On/Off	Surface Transportation Flex	11,679,334.50
Arizona	Bridge Program - 85% On/Off	Surface Transportation Flex	9,904,788.00
Arizona	Bridge Program - 85% On/Off	Surface Transportation Flex	8,942,631.50
Arizona	Bridge Program - 85% On/Off	Surface Transportation Flex	6,422,810.50
Indiana	Bridge Program - 85% On/Off	Surface Transportation Flex	30,000,000.00
Indiana	Bridge Program - 85% On/Off	Surface Transportation Flex	30,000,000.00
Missouri	Bridge Program - 85% On/Off	Surface Transportation Flex	15,000,000.00
Nevada	Bridge Program - 85% On/Off	Surface Transportation Flex	5,363,180.72
Ohio	Bridge Program - 85% On/Off	Surface Transportation Flex	76,504,898.00
Ohio	Bridge Program - 85% On/Off	Surface Transportation Flex	81,921,674.50
Oregon	Bridge Program - 85% On/Off	Surface Transportation Flex	30,000,000.00
Oregon	Bridge Program - 85% On/Off	Interstate Maintenance	7,000,000.00

RIGHT-OF-WAY REVOLVING FUND

60.

QUESTION: The Federal-aid Highway Act of 1968 authorized the establishment of a Right-of-Way fund to make cash advances to States for the purchase of right-of-way parcels in advance of highway construction to reduce the impact of land price inflation on construction costs. According to the budget, $12 million in loans were repaid to the fund in fiscal year 2009. Please provide a table that shows by State and by project the amount of each loan repaid and the date on which the loan was paid.

RESPONSE: Please see the following table. Amounts reflect data in FHWA's accounting system and are currently being reconciled with State records to accurately reflect collections received and balances due.

61.
QUESTION: The budget also shows that the cumulative balance of loans outstanding at the end of fiscal year 2009 was $75 million. Please provide a table that shows by State the amount of each outstanding loan, the purpose for which the funds were provided, and when the balances are due to be repaid.

RESPONSE: For efficiency please see the same response table provided for the previous question. Amounts reflect data in FHWA's accounting system and are currently being reconciled with State records to accurately reflect collections received and balances due.

62.
QUESTION: Funds provided from the Right-of-Way fund were to remain available to the State for use on the projects for which the funds were advanced for a period of 20 years from the date on which the funds were advanced. The budget shows that the fund had an obligated balance of $6 million at the beginning of fiscal year 2010. Please provide a table that provides a summary of the obligated balances, including State, project, year the funds were made available, and their current status.

RESPONSE: For efficiency please see the same response table provided for the previous two questions. Amounts reflect data in FHWA's accounting system and are currently being reconciled with State records to accurately reflect collections received and balances due.

STATE INFRASTRUCTURE BANKS

63.
QUESTION: In fiscal year 1997, the FHWA received an appropriation of $150 million from the General Fund for the State Infrastructure Banks (SIB) program. The budget shows that the SIB program had an obligated balance of $3 million at the beginning of fiscal year 2010. This is the same obligated balance that this program had at the end of fiscal year 2006. When was this funding originally obligated and has there been any activity pertaining to these obligations over the past 3 years? Has the agency verified that this is still a valid obligation or can these funds be deobligated?

RESPONSE: The $150 million appropriation was apportioned to the states according to formula, obligated and mostly paid to the States in 1997. However, approximately $3 million of SIB funds remain unpaid to the states. The table below shows the distribution of the unpaid obligations amongst six states. None of these states has requested payment and the reasons are unclear. It is possible that some states have declined to establish the administrative structure (separate SIB organization, staffing and budget) necessary to administer a SIB program, even a small one. Additionally, some States may not have wanted to provide the required non-Federal match for Federal SIB funding. FHWA will contact the individual States involved before any de-obligation of these funds can occur.

The $2,741,800 in unpaid obligations for State Infrastructure Banks comes from the following states:

1.	New Mexico	$895,400
2.	North Carolina	$240,000
3.	North Dakota	$406,400
4.	Rhode Island	$480,000
5.	Vermont	$480,000
6.	Puerto Rico	$240,000

HIGHWAY RELATED SAFETY GRANTS

64.

QUESTION: The Highway Safety Act of 1970 authorized grants to States and communities for implementing and maintaining highway-related safety standards. The budget shows that the Highway Related Safety Grants program had an obligated balance of $1 million at the beginning of fiscal year 2010. This is the same obligated balance that this program has had since before the end of fiscal year 2003. When was this funding originally obligated and has there been any activity pertaining to these obligations over the past 7 years? Has the agency verified that this is still a valid obligation or can these funds be deobligated?

RESPONSE: Some of the authority appropriated under the Highway Related Safety Grants Program was allocated to the National Highway Safety Bureau (now renamed the National Highway Traffic Safety Administration) for execution of the program. The remaining undelivered orders balance of approximately $550,000 was originally obligated in the 1970s and has not shown activity related to these obligations in the past 7 years or longer. FHWA is working with NHTSA to have the authority deobligated and returned to FHWA. Subsequently, FHWA will take action to return the authority to Treasury and close the appropriation permanently.

TRUCK PARKING FACILITIES

65.
QUESTION: Section 1305 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) established a new pilot program to provide funding to address the shortage of long-term parking for commercial vehicles on the National Highway System. Please provide a list of the discretionary awards made under this program since its inception in fiscal year 2006.

RESPONSE: With the recently announced round of awards, seven projects have been awarded and two have received funding through the program to date:

Received funding:

1. I-95 Corridor, from Connecticut to North Carolina (truck parking availability information dissemination using Traffic Management Centers and other Intelligent Transportation System methods and tools); and
2. I-5 Corridor in California (truck parking availability notification and reservation system using third party services);

Newly announced awards:

3. I-15 in Utah (use of big-box stores parking facilities during off-hours/truck parking availability information dissemination);
4. I-10 in Mississippi (convert two weigh stations to truck parking facilities);
5. I-5 in Oregon (construct additional spaces at existing rest area and install parking advisory signing system);
6. Statewide initiative in Tennessee (uses all aspects of traveler information systems supported by the State to make truck parking availability information available); and
7. I-81 in Pennsylvania (build the "Rest Area Parking Information and Deployment System applying truck parking availability surveillance technologies coupled with parking availability notification system via the State's ITS program).

66.
QUESTION: Provide a table that shows by year the funding made available to the Truck Parking Facilities program, the obligations incurred, and the remaining unobligated balance.

RESPONSE: Please see the following table.

Truck Parking Facilities				
FY	Amount Made Available	Obligated	Remaining Available	Notes:
FY06	$5,383,125	$0	$5,383,125	No awards were made based on first year solicitation. Originally $5,443,750 was available, but $60,625 was rescinded leaving $5,383,125 available.
FY07	$5,754,474	$0	$5,754,474	2 projects were identified for funding
FY08	$0.0	$10,977,060	$160,539	FY06 and 07 funds combined ($11,137,599) to support an award and obligation of $10,977,060. FY08 funds ($5,754,474) rescinded.
FY09	$5,850,000	$0	$5,850,000	No awards were made.
FY10	$5,843,750	$0	$5,843,750	Secretary announced awards to five projects making $6,010,539 (remaining FY07- $160,539 and FY09- $5,850,000) available for obligation. Solicitation for project applications to use FY10 funds ($5,843,750) being prepared for Federal Register Notice.

HIGHWAY SAFETY IMPROVEMENT PROGRAM

67.
QUESTION: With the hope of reducing the number of motor vehicle crashes, fatalities, and serious injuries on public roads, SAFETEA-LU nearly doubled funding for FHWA's Highway Safety Improvement Program (HSIP) and directed each State to develop a strategic planning process for identifying the State's greatest safety hazards. The Government Accountability Office's (GAO) work on HSIP found that the States' strategic highway safety plans included most key elements, but that many States lacked the prescribed data and analysis capabilities to identify and rank hazardous locations and develop remedies, especially lacking crash location data on locally owned roads.

What progress has the FHWA made in defining which roadway inventory data elements a State needs to meet Federal requirements for HSIP?

RESPONSE: In response to the November 2008 GAO-09-35 Report, *Highway Safety Improvement Program: Further Efforts Needed to Address Data Limitations and Better Align Funding with States' Top Safety Priorities*, the FHWA's Office of Safety has initiated a process to determine: 1) What should constitute a minimum set of roadway data elements; 2) What roadways should these elements be applied to; and 3) How soon should any roadway inventory collection requirements be required of the States.

To best fulfill this process, the Office of Safety has conducted a number of different outreach events to obtain feedback from the highway safety and asset management communities on these issues. These events included a one day workshop conducted in conjunction with the 8th National Conference on Transportation Asset Management; two, open web-meetings that were widely advertised, and a face-to-face listening session that was conducted in conjunction with the Transportation Research Board's Annual Meeting in January 2010.

As a follow-up to the input received from stakeholders at the outreach sessions, the Office of Safety created a Working Group comprised of a wide range of agency stakeholders and outside experts. This Working Group is currently meeting regularly to analyze the stakeholder input and provide direction to a contractor who is conducting research to address the three questions in the first paragraph. The contractor is developing different options and alternatives to answer these questions and will conduct an economic analysis to assess their benefits and costs.

The anticipated time for the Working Group and the contractor to complete their effort is fall 2010.

68.
QUESTION: When will the FHWA set a deadline for States to fully develop the required roadway data elements? How long will States be given to fully comply with the data requirements?

RESPONSE: The deadlines for requiring States to comply with certain data requirements are contingent upon whether FHWA moves forward with a potential rulemaking. The background research and economic analyses need to be completed first to determine if it is in the interest of the Federal government to pursue a rulemaking.

69.
QUESTION: How difficult is it for States to develop the required roadway safety inventory data for State-owned roads versus locally-owned roads?

RESPONSE: The answer to this question will be based upon the final determination of what roadway inventory data elements may be required. However, for the most part, State governments are better positioned to collect roadway inventory data than local governments. Part of the reason for this is that State Departments of Transportation are already collecting certain roadway data elements. This data collection is being done to comply with the requirements of the federal Highway Performance Monitoring System (HPMS), which mandates States measure, collect and report particular roadway characteristics to the FHWA. Part of this mandated data collection requirement applies system-wide to all Federal-aid highways. Additionally, many State DOTs collect similar roadway inventory information for non-Federal-aid highways that they own.

City and County DOTs or traffic departments do not generally collect roadway inventory data on a regular basis or over an entire roadway network. These agencies are more likely to conduct roadway inventory collection on an "as needed" basis. For instance, if they are trying to determine if a new roadway needs to be built or an existing roadway needs to be redesigned, these agencies will collect the roadway information to make better decisions relative to a specific project or need.

70.
QUESTION: What are the cost implications of requiring States to develop this information for both State and local roads, as required by HSIP under SAFETEA-LU? To what extent, if any, do you believe that States will have to choose between funding data collection efforts and funding highway safety infrastructure projects?

RESPONSE: Allocating limited resources between safety projects and roadway inventory collection is a difficult decision, however it's important to note that safety infrastructure programs should be data driven to maximize the return on investment and roadway data elements are a key component. The cost implication of collecting roadway inventory data on both State and local roads is one of the tasks an FHWA Working Group and contractor are addressing.

71.
QUESTION: For a State that lacks roadway safety inventory data for local roads, what alternative methods, if any, could the State use to achieve the data-driven strategic approach to highway safety sought by SAFETEA-LU?

RESPONSE: There are different alternative methods that can be used to manage safety programs and investments. Some methods require the use of crash, roadway, and traffic data elements and are included in the Highway Safety Manual was published July, 2010 by the American Association of State Highway Transportation Officials. Another effective method that is emerging in the safety community is one that takes a systemic approach to making safety investments. This approach is oriented to methods that identify and treat a system of roadways rather than targeting spot locations that exhibit safety problems from a strong data perspective. In many cases, the data needs for systemic methods are not as rigorous as the requirements for spot-based methods. These methods may be more suitable for examining roads for which complete roadway data systems does not exist.

METROPOLITAN PLANNING

72.
QUESTION: Metropolitan Planning Organizations (MPOs), representing local governments and working in coordination with State departments of transportation and major providers of transportation services, have responsibility for regional transportation planning. Since 1973 when the first MPOs were formally established, the Federal government has devolved greater responsibility for planning and implementation of transportation projects to MPOs and increased Federal funding to MPOs to respond to such responsibilities. MPOs' plans are dependent upon the quality of the data gathered and the travel models used to forecast and analyze future transportation trends; however, concerns have been raised about the quality of the data that is gathered and the reliability of the models used. Furthermore, little is known about the outcomes of these planning efforts.

In September 2009 (in report GAO-09-868), GAO recommended that DOT develop a strategy to improve data gathering and modeling efforts among MPOs, in particular by implementing the Transportation Research Board's recommendations for improving modeling efforts. What progress has the FHWA made in developing a strategy for improving data gathering and modeling?

RESPONSE: The FHWA's current strategy for travel model improvement focuses on the key elements of data, methods, and people. Our program activity areas emphasize outreach and capacity building, research, and model quality. Strategy development for travel models, primarily research, continued in support of performance based planning, climate change, and livability efforts in close collaboration across the agency and with agency partners and stakeholders.

During FY 2010, FHWA continued the program elements recommended in Transportation Research Board (TRB) Special Report 288. To date, the Travel Model Improvement Program

(TMIP) has held eleven training and technology transfer sessions via web conference on topics that include activity and hybrid model concepts and implementation experiences, dynamic traffic assignment, data transferability and data mining. TMIP updated the Travel Model Validation and Reasonableness Checking Manual and continues to support travel model peer reviews to improve model quality, and transfer lessons learned. FHWA continues to sponsor and collaborate on travel model research with a current emphasis on integrating activity based models and dynamic network models. The research emphasis will likely shift to rapid response strategic models in the near future. Finally, FHWA is working closely with the Census and AASHTO to develop and deliver the Census Transportation Planning Package.

The FHWA, with TRB, established Special Committee ADB 245 to develop a web based resource for travel modeling. This will be an ongoing source of technical guidance on advanced and current practice highway travel modeling that can evolve over time to reflect methodological and deployment changes. The vision is to take advantage of best available web technologies to build a community driven resource. The web site is under construction and the committee is developing initial content. A rollout is expected in time for TRB's annual meeting in January 2011.

73.
QUESTION: Has the FHWA considered making transportation planning more performance based, for example, by identifying specific nationwide outcomes or goals for transportation planning?

RESPONSE: FHWA has partnered with such stakeholders as AASHTO, AMPO, TRB, APTA, STPP, and others to gather information and organize/facilitate workshops, peer exchanges, and produce reports on the topic. By providing a variety of forums to identify workable definitions, outcomes, and goals for performance-based planning and programming, we seek to frame a realistic and achievable performance-based planning and programming approach. Potential measures to consider in the implementation of a performance-based system include the percent of Greenhouse Gas Emissions reduced over the planning cycle and percent of projects obligated in the Statewide Transportation Improvement Program. Additionally, the FHWA and FTA are working with the above stakeholders to:

- Examine the current state of the practice of the transportation planning and programming process to understand how the current process and/or its components are incorporating performance and accountability, and
- Define effective approaches and evolving state-of-practice changes in Statewide and Metropolitan transportation planning related to approaches, practices, methods, analyses, and data needed to realize a more performance-based, outcome-driven, transparent and accountable planning and programming process.

ON-BOARD STAFFING

74.
QUESTION: What is the current on-board level of full-time equivalents (FTE) compared to the requested FTE level in fiscal year 2011?

RESPONSE: The current on-board levels of positions and FTE, as of June 5, 2010, compared to the requested position and FTE levels in fiscal year 2011, is shown in the following table:

FHWA On-Board Position Levels as of June 5, 2010			
Current On-Board Employees		**FY 2011 Budget Request**	
GOE	**Reimbursable**	**GOE**	**Reimbursable**
2,346	592	2,430	548
FHWA On-Board FTE Levels as of June 5, 2010 *			
FY 2010 Estimate		**FY 2011 Budget Request**	
GOE	**Reimbursable**	**GOE**	**Reimbursable**
2,300	570	2,345	518

*Estimate through end of fiscal year based on available data.

75.
QUESTION: Please provide a listing by title, grade and salary of each position in the immediate Office of the Federal Highway Administrator. Include the number of FTE requested for this office in fiscal year 2011, which positions are vacant, if any, at this time, and which positions are political appointees. Provide comparable data for fiscal years 2009 and 2010.

RESPONSE: The current staffing information for the immediate Office of the Federal Highway Administrator, along with comparable data for fiscal years 2009 and 2010, is shown in the following table:

Office of the Federal Highway Administrator Current Staffing as of June 2010			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Federal Highway Administrator, EX-0340-02/00, $179,700	No	Yes	1
Special Assistant, GS-301-15, $144,385	No	No	1
Staff Assistant, GS-301-09, $65,393	No	No	1
Total Staffing for FY 2011 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**3**
Comparable Information for FY 2010 (as of January 2010)			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Federal Highway Administrator, EX-0340-02/00, $179,700	No	Yes	1
Special Assistant, GS-301-15, $144,385	No	No	1

Staff Assistant, GS-301-09, $58,511	No	No	1
Total Staffing for FY 2010 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**3**
Comparable Information for FY 2009 (as of January 2009)			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Federal Highway Administrator, EX-0340-02/00, $177,000	Yes	Yes	1
Special Assistant, GS-301-15, $128,886	No	No	1
Staff Assistant, GS-303-09, $57,129	No	No	1
Total Staffing for FY 2009 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**3**

76.
QUESTION: Please provide a listing by title, grade and salary of each position in the Office of the Deputy Federal Highway Administrator. Include the number of FTE requested for this office in fiscal year 2011, which positions are vacant, if any, at this time, and which positions are political appointees. Provide comparable data for fiscal years 2009 and 2010.

RESPONSE: The current staffing information for the immediate Office of the Deputy Federal Highway Administrator, along with comparable data for fiscal years 2009 and 2010, is shown in the following table:

Office of the Deputy Federal Highway Administrator **Current Staffing as of June 2010**			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Deputy Administrator, ES-0340-00/00, $150,000	No	Yes	1
Special Assistant, GS-0301-14, $122,744	No	No	1
Staff Assistant, GS-301-09, $65,393	No	No	1
Total Staffing for FY 2011 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**3**
Comparable Information for FY 2010 (as of January 2010)			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Deputy Administrator, ES-0340-00/00, $150,000	No	Yes	1
Special Assistant, GS-301-14, $119,238	No	No	1
Staff Assistant, GS-301-09, $65,393	No	No	1
Total Staffing for FY 2010 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**3**

Comparable Information for FY 2009 (as of February 2009)

Position (Title/Grade/Salary)	Currently Vacant?	Political Appointee?	FTE
Deputy Administrator, ES-0340-00/00, $150,000	Yes	Yes	1
Special Assistant, GS-301-14, $116,419	Yes	No	1
Staff Assistant, GS-303-08, $59,333	No	No	1
Total Staffing for FY 2009 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**3**

77.
QUESTION: Please provide a listing by title, grade and salary of each position in the Executive Director's Office. Include for the record, the number of FTE requested for this office in fiscal year 2011, which positions are vacant, if any, at this time, and which positions are political appointees. Provide comparable data for fiscal years 2009 and 2010.

RESPONSE: The current staffing information for the immediate Office of the Executive Director, along with comparable data for fiscal years 2009 and 2010, is shown in the following table:

Office of the Executive Director
Current Staffing as of June 2010

Position (Title/Grade/Salary)	Currently Vacant?	Political Appointee?	FTE
Executive Director, ES-340-00/00, $177,000	No	No	1
Transportation Specialist, GS-2101-15, $148,510	No	No	1
Special Assistant, GS-301-14, $115,731	No	No	1
Staff Assistant, GS-301-13, $97,936	No	No	1
Staff Assistant, GS-301-12, $92,341	No	No	1
Correspondence Analyst, GS-303-9, $63,673	No	No	1
Administrative Program Assistant (OA), GS-303-6, $37,983	No	No	1
Correspondence Clerk (OA), GS-303-6, $37,983	No	No	1
Total Staffing for FY 2011 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**8**

Comparable Information for FY 2010 (as of February 2010)

Position (Title/Grade/Salary)	Currently Vacant?	Political Appointee?	FTE
Executive Director, ES-340-00/00, $177,000	No	No	1
Transportation Specialist, GS-2101-15, $148,510	No	No	1
Special Assistant, GS-301-14, $115,731	No	No	1
Staff Assistant, GS-301-13, $97,936	No	No	1
Staff Assistant, GS-301-12, $92,341	No	No	1

Correspondence Analyst, GS-303-9, $63,673	No	No	1
Administrative Program Assistant, GS-303-6, $37,983	No	No	1
Correspondence Clerk (OA), GS-303-6, $37,983	No	No	1
Total Staffing for FY 2010 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**8**
Comparable Information for FY 2009 (as of February 2009)			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Executive Director, ES-340-00/00, $172,200	No	No	1
Transportation Specialist, GS-2101-15, $144,997	No	No	1
Special Assistant, GS-301-15, $122,886	No	No	1
Staff Assistant, GS-301-13, $92,723	No	No	1
Staff Assistant, GS-301-12, $87,717	No	No	1
Correspondence Analyst, GS-303-09, $62,170	No	No	1
Total Staffing for FY 2009 (this is part of the staffing for the overall Office of the Administrator, which also includes the Office of the Deputy Federal Highway Administrator and the Office of the Executive Director):			**6**

78.
QUESTION: Please provide a listing by title, grade and salary of each position in the Office of Chief Counsel. Include for the record, the number of FTE requested for this office in fiscal year 2011, which positions are vacant, if any, at this time, and which positions are political appointees. Provide comparable data for fiscal years 2009 and 2010.

RESPONSE: The current staffing information for the immediate Office of the Chief Counsel, along with comparable data for fiscal years 2009 and 2010, is shown in the following table.

Office of Chief Counsel **Current Staffing as of June 28, 2010**			
Position (Title/Series/Salary)	**Currently Vacant?**	**Political Appointee ?**	**FTE**
Chief Counsel, ES-0905-00/00, $145,000	Yes	Yes	1
Deputy Chief Counsel, ES-0905-00/00, $169,795	No	No	1
Assistant Chief Counsel, ES-0905-00/00, $149,861	No	No	1
Special Counsel, ES-0905-00/00, $160,760	No	No	1
Supv Attorney-Adviser (General), GM-0905-15, $155,500	No	No	1
Attorney-Adviser (General), GM-0905-15, $155,500	No	No	1
Attorney-Adviser (General), GM-0905-15, $155,500	No	No	1
Senior Attorney Advisor, GS-0905-15, $123,758	No	No	1
Senior Attorney Advisor, GS-0905-15, $123,758	No	No	1

Office of Chief Counsel Current Staffing as of June 28, 2010			
Position (Title/Series/Salary)	**Currently Vacant?**	**Political Appointee ?**	**FTE**
Attorney-Adviser, GS-0905-15, $127,883	No	No	1
Senior Attorney Advisor, GS-0905-15, $132,009	No	No	1
Senior Attorney Advisor, GS-0905-15, $132,009	No	No	1
Attorney Advisor, GS-0905-15, $136,134	No	No	1
Supervisory Attorney-Advisor (Cr), GS-0905-15, $136,134	No	No	1
Senior Attorney-Advisor, GS-0905-15, $130,731	No	No	1
Supv Attorney-Advisor(General), GS-0905-15, $140,259	No	No	1
Attorney-Adviser, GS-0905-15, $144,385	No	No	1
Attorney-Adviser, GS-0905-15, $144,385	No	No	1
Supervisory Attorney-Adviser, GS-0905-15, $138,654	No	No	1
Attorney-Advisor, GS-0905-15, $148,510	No	No	1
Attorney Advisor, GS-0905-15, $143,883	No	No	1
Attorney Advisor, GS-0905-15, $146,478	No	No	1
Attorney-Adviser, GS-0905-15, $140,274	No	No	1
Supervisory Attorney-Adviser, GS-0905-15, $155,500	No	No	1
Attorney Advisor, GS-0905-15, $154,615	No	No	1
Attorney-Adviser, GS-0905-15, $155,500	No	No	1
Attorney Advisor, GS-0905-15, $155,500	No	No	1
Attorney-Adviser, GS-0905-15, $155,500	No	No	1
Attorney-Adviser (General), GS-0905-15, $155,500	No	No	1
Special Counsel, GS-0905-15, $140,259	Yes	No	1
Attorney - Advisor, GS-0905-14, $105,211	No	No	1
Attorney - Advisor, GS-0905-14, $108,717	No	No	1
Attorney Advisor, GS-0905-14, $108,717	No	No	1
Attorney Advisor, GS-0905-14, $107,770	No	No	1
Attorney Advisor, GS-0905-14, $107,770	No	No	1
Attorney Advisor, GS-0905-14, $115,731	No	No	1
Attorney-Adviser, GS-0905-14, $125,914	No	No	1
Attorney-Adviser, GS-0905-14, $123,614	No	No	1
Attorney-Advisor, GS-0905-14, $117,873	No	No	1
Attorney-Adviser, GS-0905-14, $126,251	No	No	1
Attorney-Adviser, GS-0905-14, $137,360	No	No	1
Attorney-Adviser, GS-0905-14, $129,758	No	No	1
Attorney-Adviser, GS-0905-14, $127,648	No	No	1

Office of Chief Counsel
Current Staffing as of June 28, 2010

Position (Title/Series/Salary)	Currently Vacant?	Political Appointee ?	FTE
Attorney - Advisor, GS-0905-14, $136,771	No	No	1
Attorney-Adviser, GS-0905-14, $136,771	No	No	1
Administrative Program Coordinator, GS-0301-13, $115,742	No	No	1
Attorney - Advisor, GS-0905-13, $103,325	No	No	1
Attorney-Adviser (General), GS-0905-13, $109,782	No	No	1
Paralegal Spec, GS-0950-12, $84,855	No	No	1
Attorney Advisor, GS-0905-12, $74,872	No	No	1
Paralegal Spec, GS-0950-11, $73,392	No	No	1
Staff Assistant, GS-0303-09, $67,114	No	No	1
Legal Assistant, GS-0986-09, $62,798	No	No	1
Legal Assistant, GS-0986-09, $71,147	No	No	1
Program Assistant, GS-0303-08, $57,649	No	No	1
Program Assistant, GS-0303-08, $60,765	No	No	1
Program Support Assistant, GS-0303-08, $60,765	No	No	1
Program Assistant (Oa), GS-0303-07, $54,875	No	No	1
Total FTE Requested for FY 2011:			**58**

Comparable Information for FY 2010 (as of February 2010)

Position (Title/Series/Salary)	Currently Vacant?	Political Appointee ?	FTE
Chief Counsel, ES-0905-00/00, $145,000	No	Yes	1
Deputy Chief Counsel, ES-0905-00/00, $169,795	No	No	1
Special Counsel, ES-0905-00/00, $160,760	No	No	1
Assistant Chief Counsel, ES-0905-00/00, $149,861	No	No	1
Attorney Advisor, GS-0905-15/04, $136,134	No	No	1
Senior Attorney Advisor, GS-0905-15/01, $123,758	No	No	1
Senior Attorney Advisor, GS-0905-15/01, $123,758	No	No	1
Supv Attorney-Adviser (General), GM-0905-15/00, $155,500	No	No	1
Attorney-Adviser, GS-0905-15/10, $155,500	No	No	1
Attorney-Adviser (General), GS-0905-15/10, $155,500	No	No	1
Attorney Advisor, GS-0905-15/10, $155,500	No	No	1
Attorney-Adviser, GS-0905-15/10, $155,500	No	No	1
Attorney-Adviser, GS-0905-15/06, $144,385	No	No	1
Senior Attorney Advisor, GS-0905-15/03, $132,009	No	No	1
Senior Attorney Advisor, GS-0905-15/02, $127,883	No	No	1

Office of Chief Counsel
Current Staffing as of June 28, 2010

Position (Title/Series/Salary)	Currently Vacant?	Political Appointee ?	FTE
Attorney-Adviser, GS-0905-15/05, $140,259	No	No	1
Special Counsel (Personnel), GS-0905-15/05, $140,259	No	No	1
Supervisory Attorney-Advisor (Cr), GS-0905-15/04, $136,134	No	No	1
Attorney-Adviser, GS-0905-15/08, $140,274	No	No	1
Attorney-Advisor, GS-0905-15/07, $148,510	No	No	1
Attorney Advisor, GS-0905-15/09, $154,615	No	No	1
Attorney Advisor, GS-0905-15/07, $143,883	No	No	1
Attorney Advisor, GS-0905-15/07, $146,478	No	No	1
Attorney-Adviser, GS-0905-15/02, $127,883	No	No	1
Attorney-Adviser (General), GM-0905-15/00, $155,500	No	No	1
Attorney-Adviser (General), GM-0905-15/00, $155,500	No	No	1
Supervisory Attorney-Adviser, GS-0905-15/06, $138,654	No	No	1
Senior Attorney-Advisor, GS-0905-15/04, $130,731	No	No	1
Attorney-Adviser, GS-0905-15/08, $155,500	No	No	1
Attorney Advisor, GS-0905-14/03, $112,224	No	No	1
Attorney-Adviser, GS-0905-14/08, $129,758	No	No	1
Attorney-Adviser, GS-0905-14/07, $126,251	No	No	1
Attorney - Advisor, GS-0905-14/02, $108,717	No	No	1
Attorney - Advisor, GS-0905-14/01, $105,211	No	No	1
Attorney-Adviser, GS-0905-14/10, $136,771	No	No	1
Attorney Advisor, GS-0905-14/04, $115,731	No	No	1
Attorney Advisor, GS-0905-14/02, $108,717	No	No	1
Attorney-Adviser, GS-0905-14/06, $123,614	No	No	1
Attorney-Advisor, GS-0905-14/06, $117,873	No	No	1
Attorney Advisor, GS-0905-14/03, $107,770	No	No	1
Attorney Advisor, GS-0905-14/03, $107,770	No	No	1
Attorney-Adviser, GS-0905-14/07, $137,360	No	No	1
Attorney-Adviser, GS-0905-14/04, $125,914	No	No	1
Administrative Program Coordinator, GS-0301-13/10, $115,742	No	No	1
Attorney-Adviser (General), GS-0905-13/05, $109,782	No	No	1
Attorney - Advisor, GS-0905-13/03, $103,325	No	No	1
Paralegal Spec, GS-0950-12/05, $84,855	No	No	1
Attorney Advisor, GS-0905-12/01, $74,872	No	No	1

Office of Chief Counsel
Current Staffing as of June 28, 2010

Position (Title/Series/Salary)	**Currently Vacant?**	**Political Appointee ?**	**FTE**
Paralegal Specialist, GS-0950-11/05, $70,794	No	No	1
Paralegal Spec, GS-0950-11/06, $73,392	No	No	1
Staff Assistant, GS-0303-09/10, $67,114	No	No	1
Legal Assistant, GS-0986-09/09, $62,798	No	No	1
Legal Assistant, GS-0986-09/09, $71,147	No	No	1
Program Assistant, GS-0303-08/10, $60,765	No	No	1
Program Assistant, GS-0303-08/08, $57,649	No	No	1
Program Support Assistant, GS-0303-08/10, $60,765	No	No	1
Administrative Program Assistant, GS-0303-07/03, $45,024	No	No	1
Program Assistant (Oa), GS-0303-07/10, $54,875	No	No	1
Total FTE Requested for FY 2010:			**58**

Comparable Information for FY 2010 (as of February 2009)

Position (Title/Series/Salary)	**Currently Vacant?**	**Political Appointee ?**	**FTE**
Deputy Chief Counsel, ES-0905-00/00, $166,139	No	Yes	1
Special Counsel, ES-0905-00/00, $158,384	No	No	1
Senior Attorney Advisor, GS-0905-15/05, $136,941	No	No	1
Attorney Advisor, GS-0905-15/03, $128,886	No	No	1
Senior Attorney Advisor, GS-0905-15/01, $120,830	No	No	1
Attorney Advisor, GS-0905-15/04, $132,914	No	No	1
Supv Attorney-Adviser (General), GM-0905-15/00, $153,200	No	No	1
Attorney Advisor, GS-0905-15/10, $153,200	No	No	1
Attorney-Adviser, GS-0905-15/10, $153,200	No	No	1
Attorney-Adviser (General), GS-0905-15/10, $153,200	No	No	1
Attorney-Adviser, GS-0905-15/09, $153,053	No	No	1
Senior Attorney Advisor, GS-0905-15/02, $124,858	No	No	1
Supv Attorney-Adviser (General), GM-0905-15/00, $153,200	No	No	1
Attorney-Adviser, GS-0905-15/05, $136,941	No	No	1
Special Counsel (Personnel), GS-0905-15/05, $136,941	No	No	1
Supervisory Attorney-Advisor (Cr), GS-0905-15/03, $128,886	No	No	1
Attorney-Adviser, GS-0905-15/08, $137,839	No	No	1
Attorney-Advisor, GS-0905-15/07, $144,997	No	No	1
Attorney Advisor, GS-0905-15/09, $151,722	No	No	1

Office of Chief Counsel
Current Staffing as of June 28, 2010

Position (Title/Series/Salary)	**Currently Vacant?**	**Political Appointee ?**	**FTE**
Attorney Advisor, GS-0905-15/08, $149,025	No	No	1
Attorney Advisor, GS-0905-15/07, $141,004	No	No	1
Attorney Advisor, GS-0905-15/06, $139,744	No	No	1
Attorney-Adviser (General), GM-0905-15/00, $153,200	No	No	1
Attorney-Adviser (General), GM-0905-15/00, $153,200	No	No	1
Attorney-Adviser, GS-0905-15/05, $131,880	No	No	1
Attorney-Adviser, GM-0905-15/00, $153,200	No	No	1
Attorney-Adviser, GS-0905-15/06, $153,200	No	No	1
Attorney Advisor, GS-0905-14/03, $109,570	No	No	1
Attorney Advisor, GS-0905-14/02, $106,145	No	No	1
Attorney Advisor, GS-0905-14/02, $106,145	No	No	1
Attorney-Adviser, GS-0905-14/08, $126,693	No	No	1
Attorney-Adviser, GS-0905-14/07, $123,269	No	No	1
Attorney-Adviser, GS-0905-14/10, $133,543	No	No	1
Attorney Advisor, GS-0905-14/03, $109,570	No	No	1
Attorney Advisor, GS-0905-14/01, $102,721	No	No	1
Attorney-Adviser, GS-0905-14/06, $121,178	No	No	1
Attorney-Adviser, GS-0905-14/04, $110,480	No	No	1
Attorney-Adviser, GS-0905-14/06, $115,414	No	No	1
Attorney-Advisor, GS-0905-14/05, $112,116	No	No	1
Attorney Advisor, GS-0905-14/02, $102,222	No	No	1
Attorney Advisor, GS-0905-14/02, $102,222	No	No	1
Attorney-Adviser, GS-0905-14/05, $127,059	No	No	1
Attorney-Adviser, GS-0905-14/04, $123,321	No	No	1
Administrative Program Coordinator, GS-0301-13/10, $113,007	No	No	1
Attorney-Advisor (Cr), GS-0905-13/04, $95,620	No	No	1
Attorney - Advisor, GS-0905-13/01, $86,927	No	No	1
Attorney-Adviser (General), GS-0905-13/04, $104,359	No	No	1
Paralegal Spec, GS-0950-12/04, $80,409	No	No	1
Attorney - Advisor, GS-0905-12/07, $95,734	No	No	1
Paralegal Specialist, GS-0950-11/04, $67,086	No	No	1
Paralegal Spec, GS-0950-11/05, $69,887	No	No	1
Legal Assistant, GS-0986-09/08, $59,872	No	No	1
Legal Assistant, GS-0986-09/09, $69,686	No	No	1

Office of Chief Counsel
Current Staffing as of June 28, 2010

Position (Title/Series/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Executive Staff Assistant, GS-0303-08/07, $54,768	No	No	1
Program Support Assistant, GS-0303-08/10, $59,333	No	No	1
Administrative Program Assistant, GS-0303-07/02, $42,584	No	No	1
Program Assistant (OA), GS-0303-07/10, $53,574	No	No	1
Total FTE Requested for FY 2009:			**57**

79.
QUESTION: Please provide a listing by title, grade and salary of each position in the Office of Civil Rights. Include for the record, the number of FTE requested for this office in fiscal year 2011, which positions are vacant, if any, at this time, and which positions are political appointees. Provide comparable data for fiscal years 2009 and 2010.

RESPONSE: The current staffing information for the immediate Office of Civil Rights, along with comparable data for fiscal years 2009 and 2010, is shown in the following table:

Office of Civil Rights
Current Staffing as of June 2010

Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Associate Administrator for Civil Rights, ES-0340-00/00, $159,020	No	No	1
Equal Opportunity Specialist, GS-0360-15, $148,510	No	No	1
Supervisory Equal Opportunity Specialist, GS-0360-15, $136,134	No	No	1
Title VI and DBE Program Coordinator, GS-0301-14, $129,758	No	No	1
Equal Opportunity Specialist, GS-0360-14, $115,731	No	No	1
Equal Opportunity Specialist, GS-0360-13, $109,807	No	No	1
Financial Management Specialist, GS-0501-13, $109,807	No	No	1
Equal Opportunity Specialist, GS-0360-13, $106,839	No	No	1
Program Analyst, GS-0343-13, $106,839	No	No	1
Disability Policy Analyst, GS-0301-13, $103,872	No	No	1
Equal Opportunity Specialist, GS-0360-13, $97,936	No	No	1
Program Coordinator, GS-0301-13, $97,936	No	No	1
Equal Opportunity Specialist, GS-0360-13, $89,033	No	No	1
Equal Opportunity Specialist, GS-0360-12/05, $84,855	No	No	1

Equal Opportunity Specialist, GS-0360-12, $82,359	No	No	1
Program Analyst, GS-0343-12, $77,368	No	No	1
Administrative Officer, GS-0341-11, $70,794	No	No	1
Staff Assistant, GS-0303-08, $54,534	No	No	1
Total FTE Requested for FY 2011:			**18**
Comparable Information for FY 2010 (as of February 2010)			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee ?**	**FTE**
Associate Administrator for Civil Rights, ES-0340-00/00, $159,020	No	No	1
Equal Opportunity Specialist, GS-0360-15, $148,510	No	No	1
Supervisory Equal Opportunity Specialist, GS-0360-15, $132,009	No	No	1
Equal Opportunity Specialist, GS-0360-14, $115,731	No	No	1
Equal Opportunity Specialist, GS-0360-14, $105,222	No	No	1
Equal Opportunity Specialist, GS-0360-13, $109,807	No	No	1
Financial Management Specialist, GS-0501-13, $106,839	No	No	1
Equal Opportunity Specialist, GS-0360-13, $106,839	No	No	1
Program Analyst, GS-0343-13, $103,872	No	No	1
Disability Policy Analyst, GS-0301-13, $103,872	No	No	1
Program Coordinator, GS-0301-13, $97,936	No	No	1
Equal Opportunity Specialist, GS-0360-13, $97,936	No	No	1
Equal Opportunity Specialist, GS-0360-13, $89033	No	No	1
Equal Opportunity Specialist, GS-0360-12, $84,855	No	No	1
Equal Opportunity Specialist, GS-0360-12/03, $79,864	No	No	1
Program Analyst, GS-0343-12, $77,368	No	No	1
Administrative Officer, GS-0341-11, $70,794	No	No	1
Staff Assistant, GS-0303-08, $52,976	No	No	1
Total FTE Requested for FY 2010:			**18**
Comparable Information for FY 2009 (as of February 2009)			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee ?**	**FTE**
Associate Administrator for Civil Rights, ES-0340-00/00, $155,901	No	No	1
Equal Opportunity Specialist, GS-0360-15, $138,383	No	No	1
Supervisory Equal Opportunity Specialist, GS-0360-15, $119,161	No	No	1
Equal Opportunity Specialist, GS-0360-14, $104,569	No	No	1
Equal Opportunity Specialist, GS-0360-14/02, $96,701	No	No	1
Financial Management Specialist, GS-0501-13, $99,557	No	No	1
Equal Opportunity Specialist, GS-0360-13, $99,557	No	No	1
Equal Opportunity Specialist, GS-0360-13, $99,557	No	No	1

Program Analyst, GS-0343-13, $96,791	No	No	1
Disability Policy Analyst, GS-0601-13, $94,025	No	No	1
Program Coordinator, GS-0301-13, $91,259	No	No	1
Equal Opportunity Specialist, GS-0360-13, $85,727	No	No	1
Equal Opportunity Specialist, GS-0360-12, $76,742	No	No	1
Equal Opportunity Specialist, GS-0360-12, $74,416	No	No	1
Equal Opportunity Specialist, GS-0360-12, $72,090	No	No	1
Program Analyst, GS-0343-11/05, $65,967	No	No	1
Equal Opportunity Assistant, GS-0361-09, $60,942	No	No	1
Staff Assistant, GS-0303-08, $49,364	No	No	1
Total FTE Requested for FY 2009:			**18**

80.
QUESTION: Please provide a listing by title, grade and salary of each position in the Office of Public Affairs. Include for the record, the number of FTE requested for this office in fiscal year 2011, which positions are vacant, if any, at this time, and which positions are political appointees. Provide comparable data for fiscal years 2009 and 2010.

RESPONSE: The current staffing information for the immediate Office of Public Affairs, along with comparable data for fiscal years 2009 and 2010, is shown in the following table:

Office of Public Affairs Current Staffing as of June 2010			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Associate Administrator for Public Affairs, ES-0301-00/00, $135,000	No	Yes	1
Supervisory Public Affairs Specialist, GS-1035-15/03, $132,009	No	No	1
Public Affairs Specialist, GS-1035-14/08, $129,758	No	No	1
Lead Public Affairs Specialist, GS-1035-14/06, $122,744	No	No	1
Administrative Program Assistant, GS-0303-09/03, $55,070	No	No	1
Student Trainee (Public Affairs), GS-1099-09/01, $51,630	No	No	1
Administrative Program Assistant, GS-0318-07, $43,262	Yes	No	1
Total FTE Requested for FY 2011:			**7**
Comparable Information for FY 2010 (as of February 2010)			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Associate Administrator for Public Affairs, ES-0301-00/00, $135,000	No	Yes	1
Supervisory Public Affairs Specialist, GS-1035-15, $132,009	No	No	1
Public Affairs Specialist, GS-1035-14, $129,758	No	No	1
Lead Public Affairs Specialist, GS-1035-14, $122,744	No	No	1

Public Affair Specialist, GS-1035-11, $62,467	No	No	1
Administrative Program Assistant, GS-0303-09, $55,070	No	No	1
Administrative Program Assistant, GS-0318-07, $43,262	Yes	No	1
Total FTE Requested for FY 2010:			7
Comparable Information for FY 2009 (as of February 2009)			
Position (Title/Grade/Salary)	**Currently Vacant?**	**Political Appointee?**	**FTE**
Associate Administrator for Public Affairs, ES-0301-00/00, $135,000	Yes	Yes	1
Supervisory Public Affairs Specialist, GS-1035-15, $115,317	No	No	1
Public Affairs Specialist, GS-1035-14, $124,175	No	No	1
Lead Public Affairs Specialist, GS-1035-14, $111,104	No	No	1
Administrative Program Assistant, GS-0303-09, $49,712	No	No	1
Public Affairs Specialist, GS-1035-09, $48,108	No	No	1
Administrative Program Assistant, GS-0318-07, $43,262	No	No	1
Total FTE Requested for FY 2009:			7

81.
QUESTION: Which positions of the Office of Public Affairs are located in the field?

RESPONSE: None of the positions in the Office of Public Affairs are located in the field.

82.
QUESTION: Please prepare a table listing the average number of positions for the immediate Office of the Administrator and the Office of Public Affairs for each of the last three fiscal years.

RESPONSE: Please see the following table.

FHWA Average Number of Positions for the Office of the Administrator and the Office of Public Affairs		
Fiscal Year	**Average Number of Positions – Office of the Administrator**	**Average Number of Positions – Office of Public Affairs**
2010	14	7
2009	12	7
2008	14	7

83.
QUESTION: Please provide a list showing FTE levels by office within the FHWA for fiscal years 2006 through 2010, and the 2011 request. Include an additional column indicating the number of FTE by office currently on-board.

RESPONSE: Please see the following table.

FHWA Position Levels by Office

FHWA Office	FY 2006 Levels	FY 2007 Levels	FY 2008 Levels	FY 2009 Levels	FY 2010 Levels	FY 2011 Levels	Current On-Board as of June 5, 2010
Office of the Administrator	17	17	14	12	12	12	14
Chief Financial Officer	* **	* **	52	52	49	49	41
Chief Counsel	59	59	57	57	58	58	57
Public Affairs	10	10	7	7	7	7	6
Civil Rights	19	19	18	18	18	18	18
ITS Joint Program Office	17	17	17	17	17	17	17
Administration	265	265	199	199	202	202	186
Policy & Governmental Affairs	83	83	85	85	81	81	74
Research, Development & Technology	108	108	110	110	109	109	104
Professional & Corporate Development	28	28	27	27	*	*	*
Operations	55	55	55	55	59	59	58
Planning, Environment & Realty	107	117	108	108	108	108	98
Infrastructure	96	96	99	99	91	91	87
Safety	39	45	42	42	40	40	39
Innovative Program Delivery	*	*	*	*	25	25	24
Field Offices (Fed-aid, Fed Lands Divs, DTS, DFS & PDP	1502	1486	1463	1465	1477	1526	1497

FHWA Position Levels by Office							
FHWA Office	**FY 2006 Levels**	**FY 2007 Levels**	**FY 2008 Levels**	**FY 2009 Levels**	**FY 2010 Levels**	**FY 2011 Levels**	**Current On-Board as of June 5, 2010**
Federal Lands Highway (Headquarters)	25	25	28	28	28	28	26
Professional Development Program	***	***	49	49	49	***	***
GOE Total	**2430**	**2430**	**2430**	**2430**	**2430**	**2430**	**2346**
Federal Lands (Reimbursable)	619	619	587	548	548	548	592
Total	**3049**	**3049**	**3017**	**2978**	**2978**	**2978**	**2938**

* Organization did not exist at that time.
** Office of Chief Financial Officer was previously part of Administration.
*** Included in Field Offices total.

Note: FTP allocations may be revised to address organizational requirements.

84.
QUESTION: Provide a breakdown of FHWA field operations staff by activity (i.e., planning, engineering, administrative support, etc.).

RESPONSE: Please see the following table.

FHWA On-Board Field Operations Staff by Activity as of June 5, 2010			
Activity	**Federal-aid**	**Federal Lands**	**Total**
Management	83	35	118
Engineering	611	310	921
Engineering Technical	0	177	177
Planning	78	10	88
Environment	70	15	85
Realty	38	0	38
Transportation Specialist	94	6	100
Analysis	23	17	40
Civil Rights	33	0	33
Finance	150	16	166
Administrative Support	170	66	236

Information Technology	9	8	17
Students	43	27	70
Total	**1402**	**687**	**2089**

85.
QUESTION: Provide for fiscal years 2009, 2010 and 2011, the total FHWA administrative staff by division office and resource center and the current supervisor-to-employee ratio for those offices.

RESPONSE: Please see the following tables.

FHWA Administrative Staff by Division Office and Current Supervisor-to-Employee Ratios

Division Office	**FY 2009 Total**	**FY 2010 Total**	**FY 2011 Total**	**Current On-Board Total (as of 6/5/10)**	**Current Supervisor Positions (as of 6/5/10)**	**Current Supervisor-to-Employee Ratio**
Alabama	2	2	2	22	2	1:11
Alaska	1	1	1	13	2	1:7
Arizona	3	3	3	23	4	1:6
Arkansas	3	3	3	20	2	1:10
California	6	5	5	59	8	1:7
Colorado	2	1	1	20	3	1:7
Connecticut	1	1	1	18	3	1:6
Delaware	1	1	1	11	2	1:6
District of Columbia	2	1	1	13	3	1:4
Florida	5	4	4	42	6	1:7
Georgia	2	3	3	28	4	1:7
Hawaii	2	2	2	12	2	1:6
Idaho	1	1	1	14	3	1:5
Illinois	3	3	3	36	4	1:9
Indiana	3	3	3	24	2	1:12
Iowa	3	2	2	19	2	1:10
Kansas	3	3	3	18	2	1:9
Kentucky	2	2	2	21	2	1:11
Louisiana	2	2	2	23	2	1:12
Maine	1	1	1	11	2	1:6
Maryland	2	2	2	24	2	1:12
Massachusetts	1	0	0	22	2	1:11

FHWA Administrative Staff by Division Office and Current Supervisor-to-Employee Ratios

Division Office	FY 2009 Total	FY 2010 Total	FY 2011 Total	Current On-Board Total (as of 6/5/10)	Current Supervisor Positions (as of 6/5/10)	Current Supervisor-to-Employee Ratio
Michigan	6	5	5	27	4	1:7
Minnesota	3	3	3	19	2	1:10
Mississippi	2	2	2	19	2	1:10
Missouri	2	2	2	24	3	1:8
Montana	3	3	3	17	2	1:9
Nebraska	2	2	2	16	2	1:8
Nevada	2	2	2	14	2	1:7
New Hampshire	2	2	2	13	2	1:7
New Jersey	2	2	2	27	3	1:9
New Mexico	1	1	1	14	2	1:7
New York	4	4	4	44	3	1:15
North Carolina	1	1	1	28	4	1:7
North Dakota	2	2	2	13	2	1:7
Ohio	3	1	1	27	4	1:7
Oklahoma	2	2	2	22	2	1:11
Oregon	3	3	3	21	3	1:7
Pennsylvania	3	3	3	35	5	1:7
Rhode Island	1	1	1	12	3	1:4
South Carolina	2	2	2	19	3	1:6
South Dakota	1	1	1	13	2	1:7
Tennessee	2	0	0	23	2	1:12
Texas	5	5	5	47	5	1:9
Utah	2	2	2	16	2	1:8
Vermont	1	1	1	12	2	1:6
Virginia	2	2	2	29	2	1:15
Washington	2	2	2	22	2	1:11
West Virginia	2	2	2	17	2	1:9
Wisconsin	1	1	1	23	2	1:12
Wyoming	2	2	2	12	2	1:6
Puerto Rico	2	1	1	9	1	1:9
Division Totals	**119**	**108**	**108**	**1127**	**141**	**1:8**

FHWA Administrative Staff by Resource Center						
Office	**FY 2009 Total**	**FY 2010 Total**	**FY 2011 Total**	**Current On-Board Total (as of 6/5/10)**	**Current Supervisor Positions (as of 6/5/10)**	**Current Supervisor-to-Employee Ratio**
Resource Center	16	12	12	137	15	1:9

FHWA Administrative Staff by Division Offices and Resource Center						
Office	**FY 2009 Total**	**FY 2010 Total**	**FY 2011 Total**	**Current On-Board Total (as of 6/5/10)**	**Current Supervisor Positions (as of 6/5/10)**	**Current Supervisor-to-Employee Ratio**
Division Offices & Resource Center Total	135	120	120	1264	156	1:8.1

TRAINING EXPENSES

86.
QUESTION: Please provide a table of training expenses for each of the fiscal years 2007 through 2011.

RESPONSE: Please see the following table.

FHWA Training Expenses by Fiscal Year	
Fiscal Year	**Training Expenses**
2007	$1,557,719
2008	$1,513,690
2009	$2,471,616
2010	$2,779,506
2011 estimated	$2,818,419

TRAVEL EXPENSES

87.
QUESTION: Please provide a table of travel expenses for each of the fiscal years 2007 through 2011.

RESPONSE: Please see the following table.

FHWA Travel Expenses by Fiscal Year	
Fiscal Year	**Travel Expenses**
2007	$9,581,923
2008	$8,555,900
2009	$7,752,990
2010	$10,162,390
2011 estimated	$10,272,000

RENTAL PAYMENTS

88.
QUESTION: Please provide a table of GSA rental payments for each of the fiscal years 2007 through 2011.

RESPONSE: Please see the following table.

Amount of Rent Paid by Fiscal Year	
Fiscal Year	**Total Rent Paid**
FY 2007	$24,100,000
FY 2008	$23,852,000
FY 2009	$23,700,000
FY 2010	$24,400,000
FY 2011 estimated	$25,215,000

COST OF FOREIGN TRIPS TAKEN BY SENIOR LEVEL EMPLOYEES

89.
QUESTION: Please provide a table listing the purpose and costs incurred for each of the foreign trips taken by senior level (current and past) FHWA employees during the last fiscal year and thus far during the current fiscal year.

RESPONSE: The following tables detail the foreign trips taken by SES employees in FY 2009 and FY 2010 through May.

FY 2009 FHWA SES Foreign Travel				
Departure Date	**Return Date**	**Destination**	**Purpose**	**Cost**
10/18/2008	10/25/2008	Kuala Lumpur, Malaysia	World Road Association Technical Committee (C.2 - Safer Road Operations) Meeting	$4,912.40
10/26/2008	11/1/2008	Marrakech, Morocco	World Road Association/PIARC Executive Committee and Council Meeting	$5,800.00
10/26/2008	11/1/2008	Marrakech, Morocco	World Road Association/PIARC Executive Committee and Council Meeting	$5,747.50
11/1/2008	11/7/2008	Beijing and Shanghai, China	The 5th. US-PRC (China) Bridge Engineering Workshop	$0.00*
11/18/2008	11/20/2008	Toronto, Canada	Semiannual Transportation Border Working Group (TBWG) Conference	$1,029.26
12/1/2008	12/3/2008	Tijuana, Mexico	U.S. Mexico Joint Working Committee on transportation planning (semiannual meeting)	$750.00
12/1/2008	12/3/2008	Tijuana, Mexico	U.S. Mexico Joint Working Committee on transportation planning (semiannual meeting)	$1,030.78
1/26/2009	1/28/2009	Ottawa, Canada	Meeting with Canadian Government to discuss the Canadian Freight Corridor program and future joint corridor efforts	$1,503.44
3/3/2009	3/6/2009	Mexico, Mexico City	World Road Association Executive Committee Meeting	$2,150.00
4/7/2009	4/8/2009	Montreal, Canada	World Road Association Technical Committee Meeting	$3,422.43
5/5/2009	5/9/2009	Rome, Italy	World Road Association/PIARC Technical Committee (Improving Provision of Services) Meeting	$3,200.00
5/16/2009	5/20/2009	Malmo, Sweden	World Road Association/PIARC Committee C.1 "Safer Road Infrastructure" Technical Meeting	$2,890.00
6/2/2009	6/6/2009	Glasgow, UK	World Road Association/PIARC Executive Committee Meeting	$2,780.00
6/2/2009	6/6/2009	Glasgow, UK	World Road Association/PIARC Executive Committee Meeting	$2,780.00

FY 2009 FHWA SES Foreign Travel				
Departure Date	Return Date	Destination	Purpose	Cost
8/21/2009	8/29/2009	Tokyo, Japan	FHWA/MLIT consultations regarding information exchange priorities and activities under the existing Memorandum of Cooperation	$5,712.00
9/14/2009	9/20/2009	Taipei, Taiwan	Present two technical papers on "Lessons from the I-35W Bridge Collapse" and "Effective Bridge Inspection Program" and lead technical discussions with Taiwanese transportation officials and engineers at their workshop	$1,800.00
9/19/2009	9/26/2009	Incheon, South Korea	World Road Association/PIARC Executive Committee and Council Meeting	$4,200.00
9/19/2009	9/26/2009	Incheon, South Korea	World Road Association/PIARC Executive Committee and Council Meeting	$4,157.50
			FY 2009 Total SES Foreign Travel	**$53,865.31**

* Gift and Bequest

FY 2010 FHWA SES Foreign Travel as of 06/25/2010				
Departure Date	Return Date	Destination	Purpose	Estimated Cost
10/6/2009	10/10/2009	Budapest, Hungary	Forum of European Highway Research Labs (FEHRL) General Assembly meeting; presentation of US application for Associate membership in the organization.	$4,000.00
10/21/2009	10/23/2009	Sapporo, Japan	The U.S.-Japan Workshop life Cycle Assessment of Sustainable Infrastructure Materials. No cost-gift and bequest.	$0.00*
10/23/2009	11/1/2009	Cape Town, South Africa	World Road Association Technical Committee meeting (C2 - Safer Road Operations) and international seminar	$4,500.00
11/1/2009	11/6/2009	Birmingham, UK	World Road Association International Seminar	$120.00*
12/4/2009	12/20/2009	Stockholm, Sweden; Berlin, Germany; Amsterdam & The Hague, The Netherlands; London, UK; Singapore City, Singapore	International Scan: Road Pricing	$14,903.30
2/8/2010	2/12/2010	Quebec City, Canada	World Road Association Executive Committee; Winter Road Congress	$1,900.00

FY 2010 FHWA SES Foreign Travel as of 06/25/2010				
Departure Date	**Return Date**	**Destination**	**Purpose**	**Estimated Cost**
2/10/2010	2/16/2010	Chennai, India	Study low cost Intelligent Transportation Systems (ITS) solutions at the Indo-U.S. Workshop: Emerging Trends in Intelligent Transportation Systems.	100.00*
2/12/2010	2/20/2010	Delhi, India	US/India consultations on activities under existing Memorandum of Cooperation	$5,850.00
4/17/2010	4/23/2010	Pretoria, South Africa	South Africa Technical Exchange Program to discuss topics of interest and development of work plan of exchange under existing Memorandum of Cooperation; consultation with the US embassy regarding support for improved US private sector access to the SA transportation market	$6,682.50
5/23/2010	5/27/2010	Madrid, Barcelona, Spain	US/Spain technical exchange on Public-Private Partnerships best practice	$3,300.00
5/24/2010	6/11/2010	Brussels, Belgium	European Transportation Research Conference (TRA); FEHRL research coordinators Meeting	$6,900.00
5/24/2010	6/5/2010	Delft, The Netherlands; Oslo, Norway	World Road Association Technical Committee; US/Netherlands information exchange on safety best practice (under existing Memorandum of Cooperation)	$5,500.00
5/26/2010	6/1/2010	Budapest, Hungary	World Road Association Technical Committee B.2 (Road Network Operations) Workgroup Meeting	$3,200.00
5/31/2010	6/13/2010	Valencia, Spain; Frankfurt, Germany; The Hague, The Netherlands; Birmingham, UK	International Scan: Flexible Geometric Design	$10,174.00
			FY 2010 Total SES Foreign Travel	**$67,029.80**

* Gift and Bequest

TRUCK SIZE AND WEIGHT

90.
QUESTION: To preserve our Nation's infrastructure and to keep trucks and buses moving efficiently, States must ensure that commercial motor vehicles comply with Federal size and weight standards. This Federal interest in ensuring the safety, productivity, and mobility of freight commerce through the establishment and enforcement of these size and weight standards is prescribed in sections 127 and 141 of title 23, United States Code. Please provide a brief overview of the Federal weight standards for the Interstate Highway System, including a description of how these standards have changed over time and the penalties for non-compliance.

RESPONSE: Federal involvement in commercial motor vehicle size and weight dates back to the enactment of the Federal-Aid Highway Act of 1956 (Public Law 84-627), which authorized the Interstate System and established weight limits to protect our investment in the Interstate System from excessive damage caused by overweight commercial vehicles. The 1956 limits included a maximum width limit of 96 inches, a single-axle weight limit of 18,000 pounds, a tandem-axle weight limit of 32,000 pounds, and a gross vehicle weight (GVW) limit of 73,280 pounds. These Federal limits for the Interstate were established as a condition on the receipt of Federal-aid funds, and failure to implement or enforce the limits resulted in the withholding of Federal funds. However, the 1956 Act also included a grandfather clause for States with laws in place that provided for higher vehicle axle or GVW than the Federal standards allowed.

1956

- Interstate System and establishment of the Highway Trust Fund
- Provided a dedicated source of funds to support the Interstate Construction Program
- Federal limits on truck weights were introduced at the same time in order to protect the investment of public user-based funds

1974 (Federal weight limits remain the same in 2010)

- Federal weight limits were increased to the maximum weights in force today and introduced the federal bridge formula
- The federal bridge formula sets weight limits for commercial vehicles in accordance with the number of axles on the truck and spacing between axles
    - Single Axle: 20,000 pounds
    - Tandem Axle: 34,000 pounds
    - Gross Vehicle Weight: 80,000 pounds (or lower depending on number of axles and distance)

Penalties for non-Compliance with Federal Standards:

- Weight Standards. A State is subject to loss of its entire National Highway System (NHS) apportionment if its laws or regulations establish weight limits for commercial motor vehicles operating on the Interstate System that are either higher or lower than the four Federal weight standards mentioned above.

- Size Standards. A State that violates Federal statutes on commercial vehicle size, or the implementing regulations, is subject to a civil action in Federal district court for injunctive relief, in accordance with 49 U.S.C. 31115, "Enforcement." The action will be brought by the Department of Justice on behalf of the Federal Highway Administration.
- Reporting Requirements. Each year, States must provide the FHWA with both a plan, and a certification of accomplishment of planned size and weight enforcement activities. Failure to certify, or being found to have been inadequately enforcing all State laws affecting maximum size and weight on Federal-Aid highways, despite the provision of certifying documents to the FHWA, can result in a 10 percent reduction of Federal-aid funds to the State for the next fiscal year in the following programs: Interstate Maintenance, National Highway System, Surface Transportation, Congestion Mitigation and Air Quality, Highway Safety Improvement, and Recreational Trails Programs.

91.
QUESTION: The Federal law governing vehicle weight standards includes provisions, exemptions, and variations applicable to particular States, routes, vehicles, or operations. Please provide a list of these exemptions from the national vehicle weight standards and indicate when and in which Public Law they were enacted.

RESPONSE: There are 12 exemptions listed in the US Code as it relates to legal weight limits on the Interstate System.

- Hawaii - provided grandfather rights for laws or regulations in effect as of February 1, 1960. Hawaii's 1960 grandfather date reflects the fact that it didn't become a State until 1959.
- Colorado - allows vehicles designed to carry two or more precast concrete panels as a non-divisible load.
- Michigan - provided grandfather rights for laws or regulations in effect as of May 1, 1982. Michigan wanted to legalize the astoundingly overweight "centipedes" that have up to 11 axles, and allow 164,000 pounds.
- Maryland - provided grandfather rights for laws or regulations in effect as of June 1, 1993. Also they are exempt from single, tandem and bridge formula on the operation on Interstate Route 68 in Garrett and Allegany Counties, Maryland, of any specialized vehicle equipped with a steering axle and a tridem axle and used for hauling coal, logs, and pulpwood if such vehicle is of a type of vehicle as was operating in such counties on United States Route 40 or 48 for such purpose on August 1, 1991. [Section 127 (e)]
- Louisiana - allowed 100,000 pounds on the Interstate for hauling sugarcane during harvest season, not to exceed 100 days annually, by special permit.
- New Hampshire - provided weight limits that were in effect as of January 1, 1987 on Interstate Routes 89, 93, and 95, which amounted to 99,000 pounds.

- Maine - provided weight limits on the Maine Turnpike (I-95 and I-495) and a portion of I-95 from the Maine Turnpike to the New Hampshire line that were in effect on October 1, 1995, which amounted to 100,000 pounds. Also, Secretary may waive weight limits for with respect to the portion of Interstate Route 95 in the State of Maine between Augusta and Bangor for the purpose of making bulk shipments of jet fuel to the Air National Guard Base at Bangor International Airport during a period of national emergency. [Section 127 (h)]
- Iowa - exception from weight limits for vehicles using Interstate Route 29 between Sioux City, Iowa, and the border between Iowa and South Dakota or vehicles using Interstate Route 129 between Sioux City, Iowa, and the border between Iowa and Nebraska. [Section 127 (a)(2)].
- Wisconsin - exempts from single axle weight, tandem axle weight, gross vehicle weight, and bridge formula limits on the operation of any vehicle that could legally operate on the 104-mile portion of Wisconsin State Route 78 and United States Route 51 between Interstate Route 94 near Portage, Wisconsin, and Wisconsin State Route 29 south of Wausau, Wisconsin, on Nov. 28, 1995, in the event that route is designated as part of the Interstate System. [Section 127 (f)]
- Pennsylvania - exempts from single axle weight, tandem axle weight, gross vehicle weight, and bridge formula limits the operation of any vehicle that could legally operate on December 29, 1995 on the segment of United States Route 220 between Bedford and Bald Eagle, Pennsylvania, that is designated Interstate. [Section 127 (g)]
- In addition LCV variances are allowed for Wyoming (Nov. 3, 1992 - 117,000 pounds), Ohio (3 cargo units 281/2 feet, limited segment), Alaska (July 5, 1991), and Iowa (LCVs not in actual operation on June 1, 1991 to be operated on I-29 between Sioux City and South Dakota and I-129 between Sioux City and Nebraska). [Section 127 (d)(1)]

All States were granted authority for an additional 400 pounds over allowable weight limits for idle reduction technology.

92.
QUESTION: Off the Interstate Highway System, States are allowed to set their own commercial vehicle weight standards. Please provide a list of the States that allow heavier vehicles on State and local roads and, where possible, note when these higher limits were established.

RESPONSE: The following table provides a list of States that allow heavier vehicles on State and local roads.

Commercial Vehicle Weight Standards by State		
State	Max. GVW allowed for TT1* - **Non-Interstate highways**	Higher limits established
Alabama	84	Undetermined
Alaska	90	Undetermined
Colorado	110(Quad axles)	Grandfather 1956
Hawaii	88	Grandfather 1960
Idaho	105.5	Grandfather 1956
Iowa	96(cert.exc.)	Undetermined
Kansas	85.5	Undetermined
Kentucky	120- Coal Permit	Undetermined
Louisiana	88	Undetermined
Maine	100	Undetermined
Massachusetts	99	Undetermined
Michigan	154	Grandfather 1956
Minnesota	90- Ag. loads	Undetermined
Mississippi	84	Undetermined
Nebraska	95	Undetermined
Nevada	129	Grandfather 1956
New Hampshire	103	Grandfather 1974
New Mexico	86.4	Grandfather 1956
New York	120 / 117	Grandfather 1956
N. Dakota	105.5	Undetermined
Ohio	120	Grandfather 1956
Oklahoma	90	Undetermined
Oregon	105.5	Grandfather 1974
Pennsylvania	95	Grandfather 1956
Texas	88	Undetermined
Utah	94	Grandfather 1956
Vermont	80 / 99	Grandfather 1956
Virginia	84	Undetermined
Washington	105.5	Grandfather 1956
Wyoming	117	Grandfather 1956

*TT1: Tractor with 1 trailer

93.
QUESTION: Please list any activities conducted in fiscal year 2009 and fiscal year 2010 funding amounts allocated to truck size and weight studies.

RESPONSE: The following are the obligations to date:

1. $10,000 to University of New York at Albany for Truck Flow Analysis for ME/VT Truck Pilot Study.
2. $231,483 to Cambridge Systematics, Inc. for Technical Support for ME/VT Pilot Study
3. $80,000 allocated to Vermont to Install and Operate Weigh-in-Motion Sites for Data Collection.

94.
QUESTION: How much is requested in the fiscal year 2011 budget for truck size and weight studies?

RESPONSE: No funds were specifically requested in the FY 2011 budget for truck size and weight studies. However, within the undesignated portion of the FY 2011 Research and Technology request, approximately $400,000 for truck size and weight research and technology transfer activities is planned.

INTERNATIONAL ACTIVITIES

95.
QUESTION: Please list by contract, purpose, and amount each of the activities funded during fiscal years 2009, 2010, and 2011 in this area, being certain to include any Transportation Research funds.

RESPONSE: The objectives of the International Highway Outreach program are: (1) informing the U.S highway community of technology and program innovations abroad that have potential value in the United States; (2) promoting U.S. expertise, goods and services in foreign countries, and (3) increasing transfers of U.S. highway transportation technology to foreign countries.

The following program formats are used to accomplish the goals outlined above. Accompanying each program description is information regarding the funding used by the Office of International Programs to execute the various program functions.

International Visitor Program: The Federal Highway Administration's (FHWA) International Visitors Program facilitates the sharing of information regarding U.S. roads and technologies between FHWA experts and their international counterparts. It supports this sharing of information through topic specific meetings, study tours with FHWA Program Offices, State Departments of Transportation, Transportation Agencies and Associations nationwide.

The Office of International Programs holds a contract with Ciracom for the provision of administrative and program support services through contractor-employees. Among these services is coordination of requests and delegation visits under the International Visitor Program.

Costs for FY 2009: Ciracom Contract (IVP support) - $38,200

Estimated Costs for FY 2010: Ciracom Contract (IVP support) - $90,000

Costs for FY 2011: No cost information available at this time.

The International Highway Technology Scanning Program (Scanning Program): This program serves as a means to access innovative technologies and practices in other countries that could significantly improve highways and highway transportation services in the United States. The program enables innovations to be adapted and put into practice much more efficiently without spending scarce research funds to re-create advances already developed by other countries.

Scans are co-funded by FHWA and AASHTO. AASHTO's share of funding is channeled through NCHRP Project Panel 20-36 and is provided to FHWA through a reduction in the amount authorized by FHWA from State SP&R contributions to NCHRP. FHWA's share of funding is obtained through the Research and Technology Program and is co-financed between the Office of International Programs and the FHWA Program Office(s) and/or Resource Center, as determined by their areas of responsibility and the particular scan topic.

Costs for FY 2009:

- American Trade Initiatives, Inc. contract (Scanning Program support): $1,233,828
- Federal Travel Costs: $138,540

Estimated Costs for FY 2010

- American Trade Initiatives, Inc. Contract (Scanning Program support): $1,265,000
- Federal Travel Costs: $155,874

Costs for FY 2011: No information available at this time

Global Technology Exchange Program: This focuses on government-to-government relations and activities designed to promote the safe, secure and efficient movement of people and cargo. The primary activities are technology exchange, information sharing, the establishment of technology exchange centers, and the facilitation of partnering relationships (twinning) between U.S. states and their counterparts abroad.

Costs for FY 2009: $86,540

Estimated Costs for FY 2010: $59,050

The Office of International Programs holds a contract with Ciracom for the provision of administrative and program support through contractor-employees. These services include providing administrative and program support services to USDOT employees from other DOT modes deployed in Iraq and Afghanistan. FHWA serves as the executive agent for these programs on a reimbursable basis.

Costs for FY 2009: Ciracom Contract (Iraq/Afghanistan support) - $79,300

Estimated Costs for FY 2010: Ciracom Contract (Iraq/Afghanistan support) – $99,440

Costs for FY 2011: No cost information available at this time.

Oversight of US International Road Activities: This involves the coordination of FHWA involvement in international organizations and their operating committees for the purpose of promoting US objectives and views. Specifically, this entails organizing FHWA participation in the World Road Association, the Organization for Economic Cooperation and Development, and other bodies. It also involves the tracking and administrative support of international travel by FHWA employees through the use of contracted staff.

Costs for FY 2009: $47,500

Estimated Costs for FY 2010: $58,800

Costs for FY 2011: No cost information available at this time.

The Office of International Programs holds a contract with Ciracom for the provision of administrative and program support services through contractor-employees. These services include providing support services pertaining to FHWA's involvement in US International Road Activities (e.g., FHWA participation in the World Road Association, administrative support for international travel).

Costs for FY 2009: Ciracom Contract - $49,500

Estimated Costs for FY 2010: Ciracom Contract – $90,000

Costs for FY 2011: No cost information available at this time.

96.
QUESTION: Please specify the number of planned and completed international scanning trips taken during each of the last three years. Please specify the total costs of those trips for each year and indicate the FHWA and AASHTO contribution.

RESPONSE: In FY 2008, the International Technology Scanning Program planned and conducted four (4) programs. The topics were as follows:

International Best Practices to Accommodate Older Drivers

- Dates: February 29-March 16, 2008
- Purpose: To assess infrastructure improvements and policy initiatives regarding transportation system planning, operations, and design as they relate to older road users. The scan team met with state and federal government transportation officials, university research centers, and staff from motorist's clubs and other non-governmental organizations in Japan and Australia.
- Total Travel Cost: $95,560 (FHWA Share: $32,564 – AASHTO/NCHRP Share: $62,996)

Transportation Research Program Management

- Dates: April 11-27, 2008
- Purpose: To examine transportation research program administration practices in Sweden, the Netherlands, France, Belgium (EC), Japan, and South Korea. The scan identified successful foreign program management practices, different from our own, that can be applied in the United States.
- Total Travel Cost: $117,634 (FHWA Share: $32,904 – AASHTO/NCHRP Share: $84,730)

Public-Private Partnerships: Best Practices for Contract Procurement and Administration

- Dates: June 14-30, 2008
- Purpose: To examine programs, policies and practices used in Portugal, Spain, the UK, and Australia to actively solicit and involve the private sector in the delivery of highway infrastructure.
- Total Travel Cost: $110,908 (FHWA Share: $35,404 – AASHTO/NCHRP Share: $75,504)

Integrating and Streamlining Right-of-Way and Utility Process with Planning, Environment and Design

- Dates: September 5-21, 2008
- Purpose: To identify how right-of-way and utility processes in other nations are coordinated with project planning, environmental analysis and documentation, environmental mitigation, and design plans preparation. During September 2008, the scan panel visited Australia and Canada and identified some 20 potential implementation ideas that merit consideration in the United States.
- Total Travel Cost: $100,254 (FHWA Share: $38,604 - NCHRP Share: $61,650)

In FY 2009, the International Technology Scanning Program planned four programs, three of which were conducted. The completed programs are as follows:

Pedestrian and Bicyclist Safety

- Dates: May 8-24, 2009
- Purpose: To investigate the work being done in **Denmark, Sweden, United Kingdom, Germany and Switzerland** in an effort to identify approaches, techniques and policies that can be transferred and adopted in order to improve pedestrian and bicyclist safety and mobility in the United States.
- Total Travel Cost: $96,588 (FHWA Share: $27,476 - NCHRP Share: $69,112)

Assuring Bridge Safety and Serviceability in Europe

- Dates: May 29 – June 14, 2009
- Purpose: To identify best practices and processes utilized in the United Kingdom, Austria, Finland and Germany for: (1) assuring the safety and serviceability of newly designed bridges; (2) evaluating and quantifying the required level of safety and performance to avoid failures, serviceability concerns, unnecessary expenditures and traffic restrictions; and (3) expanding the use of advanced analysis in everyday practice for both simple and complex bridges.
- Total Travel Cost: $84,550 (FHWA Share: $27,156 - NCHRP Share: $57,394)

Linking Transportation Performance and Accountability

- Dates: July 24 – August 9, 2009
- Purpose: To examine how transportation agencies in the United Kingdom, Sweden, Australia, and New Zealand use performance metrics to manage, explain, deliver, adjust, and account for their transportation budgets. The scan was able to capture the evolutionary progress in international Performance Management since a similar study was undertaken in 2004.
- Total Travel Cost: $106,358 (FHWA Share: $38,956 - NCHRP Share: $67,402)

The fourth program approved for this fiscal year, Reducing Congestion Using Road Pricing, was rescheduled based on the availability of appropriate officials in one of the countries to be surveyed. The scan team determined that the information to be obtained from that location was significant enough to call for a rescheduling of the international scan, thus it was conducted at the beginning of FY 2010 as described below.

In FY 2010, the International Technology Scanning Program has four approved topics. However, due to the aforementioned scheduling adjustment, five scan missions are planned for completion during this fiscal year. The scans to be performed during this reporting period are listed below.

Reducing Congestion and Funding Transportation Using Road Pricing

- Dates: December 5-20, 2009
- Purpose: To identify new ideas and practical, workable models for integrating variable road pricing approaches into state, local, and regional policies, programs, and practices. The scan team interacted with host city and country experts from Stockholm, Sweden, London, England, Singapore, Germany, the Czech Republic, and the Netherlands. They developed an understanding of the political, institutional, and technical factors that contributed to the successful implementation of road pricing and, in some cases, to their rejection.
- Total Travel Cost: $132,444 (FHWA Share: $45,600 - NCHRP Share: $86,844)

Outdoor Advertising Control: Best Practices Policy and Implementation

- Dates: March 11-28, 2010
- Purpose: To examine how Australia, Sweden, the Netherlands and the United Kingdom have efficiently and effectively regulated outdoor advertising within and adjacent to the roadway right-of-way. The scan team also reviewed the techniques used by these countries to balance competing interests, including public involvement, in the development and consideration of policy, regulations, enforcement, safety, environmental concerns, and revenue generation.
- Travel Cost: $138,524 (FHWA Share: $47,874 - NCHRP Share: $90,653)

Flexible Geometric Design Practices to Improve the Performance of Freeway Facilities

- Dates: May 31 – June 13, 2010
- Purpose: To examine flexible and innovative geometric design practices and techniques being used in Spain, Germany, the Netherlands, and the United Kingdom to improve the operational performance of freeway and high speed facilities without compromising safety and in support of actively managing traffic and dynamically using managed lanes strategies to improve the performance of freeways in congested urban freeway corridors.
- Total Projected Travel Cost: $79,568 (FHWA Share: 27,376 – NCHRP Share: 52,192)

Understanding the Policy and Program Structure of National and International Freight Corridor Programs

- Dates: August 27 – September 11, 2010
- Purpose: To examine the national and international freight corridor program (TEN-T) put in place by the European Union and consortium of non EU European States and to gain a better understanding of the inter-workings of the policies, mechanisms and programs that governments will need to contemplate should the United States develop a national freight corridor program. The scan will include the participation of a representative from both Mexico and Canada. The results of the scan are expected to provide input into the surface transportation reauthorization process that is underway in the United States.
- Total Projected Travel Cost: $107,000 (FHWA Share: $32,000 – NCHRP Share: 75,000)

Successful Infrastructure Countermeasures to Mitigate Motorcycle Fatalities

- Dates: September 10-26, 2010
- Purpose: To determine what is being done in Norway, France, UK, Belgium, and Germany to reduce motorcycle fatalities. The focus will be on the infrastructure: finding cost effective options to improve motorcycle safety and integrating motorcycle usage into the infrastructure design and operations. The scan will touch upon safety data and collection, safety programs, barrier design and functionality, maintenance practices, intersection operations, and pavement treatments.
- Total Projected Travel Cost: $97,000 (FHWA Share: $30,000 – NCHRP Share: 67,000)

RESEARCH AND DEVELOPMENT CONTRACTORS

97.
QUESTION: Provide a table that lists, by amount, each of the largest research and development contract awards (those in excess of $1,000,000) provided by the FHWA in fiscal year 2009 and fiscal year 2010 to date. Include a brief description of the contract and the purposes for which it was let.

RESPONSE: Please see the following table.

IN-HOUSE RESEARCH PROJECTS

98.
QUESTION: Provide a list of each major in-house research project being conducted by the FHWA in the current fiscal year, including a brief description and funding amount.

RESPONSE: Please see the following table.

FEDERAL-AID OBLIGATIONS BY MONTH

99.
QUESTION: Please provide a table that shows the obligations by month in the Federal-aid highway program for fiscal year 2009 and fiscal year 2010 to date.

RESPONSE: Please see the following table.

REDISTRIBUTION OF UNOBLIGATED FEDERAL-AID AUTHORITY

100.
QUESTION: Provide detail by State of the redistribution of unobligated obligation authority under the Federal-aid highway program in August 2007, 2008, and 2009 under the authority provided in section 120(c) of the annual Appropriations Act.

RESPONSE: The table that follows shows the redistribution of obligation limitation under section 120(c) of the annual Appropriations Act (August Redistribution) for fiscal years 2007, 2008, and 2009.

Federal Highway Administration (FHWA)
Redistribution of Obligation Limitation Pursuant to Section 120(c) of the Annual Appropriations Act

State	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009
Alabama	21,566,366	20,437,855	18,392,590
Alaska	0	2,483,157	2,294,277
Arizona	20,475,068	19,425,529	18,389,143
Arkansas	142,842	13,970,435	13,282,139
California	116,867,692	107,603,395	96,036,199
Colorado	16,078,552	15,417,571	13,571,657
Connecticut	10,000,000	17,046,724	15,266,462
Delaware	1,000,000	971,492	5,000,000
District of Columbia	7,151,184	6,674,370	6,183,486
Florida	49,307,013	46,653,283	43,508,057
Georgia	43,877,108	40,777,205	37,536,935
Hawaii	10,405,284	9,733,138	8,655,466
Idaho	8,867,991	7,855,400	7,155,803

State	Fiscal Year 2007	Fiscal Year 2008	Fiscal Year 2009
Illinois	40,586,756	38,231,633	32,551,356
Indiana	27,732,933	26,264,434	24,086,323
Iowa	15,224,376	14,284,362	13,760,070
Kansas	16,444,633	15,977,333	15,130,125
Kentucky	19,029,829	18,238,109	16,988,869
Louisiana	26,445,699	16,642,498	20,747,316
Maine	6,612,598	6,222,631	5,168,550
Maryland	20,653,822	19,067,370	17,783,203
Massachusetts	52,856,777	49,706,424	46,404,295
Michigan	36,724,710	32,736,884	28,464,993
Minnesota	21,171,361	19,071,652	17,873,528
Mississippi	14,547,164	14,019,791	12,925,908
Missouri	29,557,661	27,768,433	26,360,046
Montana	11,612,073	11,162,117	10,896,553
Nebraska	10,650,554	9,847,148	0
Nevada	4,730,958	1,500,000	2,843,271
New Hampshire	6,708,826	6,347,655	5,739,239
New Jersey	37,473,272	34,391,359	31,379,549
New Mexico	10,978,325	10,646,099	4,416,168
New York	69,289,441	62,868,936	49,155,301
North Carolina	34,423,537	32,171,269	29,990,749
North Dakota	7,383,299	6,568,994	6,745,579
Ohio	47,173,524	42,966,606	39,266,439
Oklahoma	19,948,491	18,334,520	15,996,620
Oregon	14,768,298	12,516,114	11,278,864
Pennsylvania	51,044,677	49,618,786	39,638,692
Rhode Island	7,798,282	7,319,462	6,708,802
South Carolina	21,701,271	21,447,993	19,148,034
South Dakota	8,875,377	8,459,102	7,755,121
Tennessee	20,181,650	25,878,267	11,498,337
Texas	87,426,583	84,373,888	73,614,720
Utah	11,461,620	10,487,404	9,662,089
Vermont	7,167,692	6,576,868	6,188,070
Virginia	33,858,777	31,792,022	28,248,411
Washington	21,087,213	16,055,963	15,712,585
West Virginia	12,575,787	12,296,867	11,247,455
Wisconsin	23,409,036	22,096,948	20,291,805
Wyoming	8,619,025	7,362,109	7,602,318
TOTAL	1,223,675,007	1,160,367,604	1,028,541,567

101.
QUESTION: Provide detail by State of the redistribution of certain authorized funds under the Federal-aid highway program in 2008, 2009, and 2010 under the authority provided in section 120(e) of the annual Appropriations Act.

RESPONSE: The table below shows the redistribution of certain authorized funds under section 120(e) of the annual Appropriations Act for fiscal years 2008, 2009, and 2010.

Federal Highway Administration (FHWA)
Redistribution of Certain Authorized Funds Pursuant to Section 120(e) of the Annual Appropriations Act

State	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010
Alabama	3,138,508	2,701,994	4,497,745
Alaska	1,400,652	1,357,852	2,826,024
Arizona	3,289,294	3,204,024	5,090,049
Arkansas	2,123,479	2,046,639	3,540,907
California	15,983,250	15,191,690	25,811,455
Colorado	2,315,198	2,243,089	3,781,444
Connecticut	2,224,750	2,086,692	3,488,011
Delaware	693,070	661,962	1,170,039
District of Columbia	698,353	655,658	1,149,872
Florida	8,197,427	7,917,461	12,808,769
Georgia	5,865,241	5,350,447	8,711,062
Hawaii	725,848	695,347	1,209,920
Idaho	1,214,506	1,169,860	1,948,954
Illinois	5,738,280	5,467,478	9,625,927
Indiana	4,185,343	4,018,599	6,491,940
Iowa	1,979,817	1,932,427	3,387,045
Kansas	1,778,983	1,679,657	2,787,597
Kentucky	2,564,513	2,575,319	4,320,797
Louisiana	2,731,457	2,846,651	4,894,411
Maine	777,609	737,448	1,322,923
Maryland	2,684,217	2,536,591	4,216,146
Massachusetts	2,882,546	2,719,442	4,483,719
Michigan	4,907,787	4,571,215	7,491,590
Minnesota	2,743,271	2,623,022	4,467,146
Mississippi	2,024,037	1,954,090	3,353,870
Missouri	3,944,550	3,778,339	3,742,943
Montana	1,555,906	1,497,898	898,987
Nebraska	1,291,262	1,234,494	2,078,456
Nevada	1,221,025	1,242,373	2,365,033
New Hampshire	771,221	728,293	1,190,964

State	Fiscal Year 2008	Fiscal Year 2009	Fiscal Year 2010
New Jersey	4,361,817	4,190,203	6,939,759
New Mexico	1,617,623	1,554,470	2,574,909
New York	7,597,974	7,238,507	7,325,856
North Carolina	4,498,928	4,335,913	7,041,263
North Dakota	1,090,710	1,045,964	866,874
Ohio	5,933,669	5,582,714	9,205,997
Oklahoma	2,603,313	2,498,580	4,375,463
Oregon	1,999,556	1,915,254	3,460,338
Pennsylvania	7,033,711	6,670,492	10,994,577
Rhode Island	878,723	864,600	1,185,396
South Carolina	2,690,967	2,600,036	2,862,606
South Dakota	1,141,922	1,093,916	1,607,393
Tennessee	3,520,910	3,358,817	5,636,457
Texas	13,574,887	13,611,134	21,769,742
Utah	1,241,154	1,274,975	2,215,286
Vermont	739,895	708,342	1,384,622
Virginia	4,274,611	4,067,534	6,775,706
Washington	2,969,611	2,839,674	4,854,536
West Virginia	1,392,709	1,520,913	2,651,671
Wisconsin	3,161,578	3,038,869	5,021,900
Wyoming	1,177,471	1,128,320	1,845,278
TOTAL	165,153,139	158,565,278	253,749,374

INTERSTATE PAVEMENT CONDITIONS BY STATE

102.
QUESTION: Provide a breakdown by State of the percent of pavement mileage in poor conditions on the Interstate System for each year since 1993.

RESPONSE: Please see the following table.

103.
QUESTION: Provide a breakdown of the pavement conditions by functional classification for each year since 1993.

RESPONSE: Please see the following table.

CONSTRUCTION INDUSTRY UNEMPLOYMENT RATES

104.
QUESTION: Provide a table that shows the construction industry unemployment rates by year since 1975. For 2009, include a breakdown of the unemployment rate by month.

RESPONSE: U.S.DOT does not collect data on unemployment in the construction sector. The following data is from the Bureau of Labor Statistics.

Total Unemployment Rates for the Private Wage and Salaried Workers in the Construction Industry 1994-2010 (%)

Year	Annual Average	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1975-93	NO DATA SERIES AVAILABLE												
1994	11.8												
1995	11.5												
1996	10.1												
1997	9												
1998	7.5												
1999	7												
2000	6.2												
2001	7.1												
2002	9.2												
2003	9.3												
2004	8.4												
2005	7.4												
2006	6.7												
2007	7.4												
2008	10.6												
2009	19.0	18.2	21.4	21.1	18.7	19.2	17.4	18.2	16.5	17.1	18.7	19.4	22.7
2010		24.7	27.1	24.9	21.8	20.1							

Source Bureau of Labor Statistics

BLS Table 4, Employed and Experienced Unemployed by Detailed Industry and Class of Worker,

Annual Average (Current Population Survey),
2000-2010 also available at:
http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?series_id=LNU04032231&data_tool=Xgtable
The estimates above do not include government or non wage and salaried workers.

The monthly numbers are not seasonally adjusted.

PRICE INFLATION ON HIGHWAY CONSTRUCTION

105.
QUESTION: What have been the annual rates of cost price inflation for each of the past five years for various components of highway construction spending (e.g., materials, labor, overhead), and how do these compare to the national CPI for those years?

RESPONSE: The FHWA is developing a new highway construction cost index, and is able to provide a quarterly and annual index for highway construction costs in aggregate, but has not yet refined the methodology to provide indexes for construction cost components. The following table displays the annual aggregate highway construction cost index, and compares it to the Consumer Price Index (CPI):

Annual Aggregate Highway Construction Cost Index Compared to the Consumer Price Index ($ in millions)						
Index	2003	2004	2005	2006	2007	2008
National Highway Construction Cost Index (NHCCI)	100.0	105.2	114.1	129.0	124.5	124.6
Consumer Price Index	100.0	106.1	106.1	109.6	112.7	117.0

Source: Federal Highway Administration, *Highway Statistics, 2008*, Table PT-3C

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

106.
QUESTION: Please provide a table that shows for each of the fiscal years 2005 through 2009 the total dollar amount, percentage, and number of contracts awarded to disadvantaged businesses relative to the total construction and design consultant contracts awarded by State transportation agencies in the Federal-aid highway program.

RESPONSE: The information on the DBE program for FY 2005 through 2009 follows:

Contracts Awarded to Disadvantaged Business			
Fiscal Year	Total Dollar Amount	Percentage	Number of Contracts Awarded
2005	$1,586,355961	11%	9,736
2006	$2,351,478,868	9.9%	13,895
2007	$2,442,110,618	8.9%	10,085
2008	$2,418,860,425	9.2%	16,815
2009	$2,971,333,648	9.2%	20,363

DISCRETIONARY AWARDS

107.
QUESTION: Please provide a listing arrayed by State and discretionary highway program of all fiscal year 2009 awards made from each of the discretionary highway programs available to the Secretary.

RESPONSE: Please see the following table.

108.
QUESTION: For each discretionary highway program, provide a list of the fiscal year 2010 awards, including the amount and a brief description of the program.

RESPONSE: Please see the following table. Following is a brief description of each program:

Denali Access System Program: The Denali Access System Program will fund planning, design, engineering, and construction of road and other surface transportation infrastructure identified for the Denali access system.

Truck Parking Facilities: The Truck Parking Facilities program is a pilot program that provides funding to address the shortage of long-term parking for commercial vehicles on the National Highway System.

Freight Intermodal Distribution Pilot Grant Program: The Freight Intermodal Distribution Pilot Grant Program provides funding for intermodal projects that relieve congestion, improve transportation safety, facilitate international trade, and encourage public-private partnerships.

On-the-job Training: The FHWA On-the-Job Training (OJT) Program requires State Transportation Agencies (STAs) to establish apprenticeship and training programs targeted to move women, minorities, and individuals with a disability into journey-level positions to ensure that a competent workforce is available to meet highway construction hiring needs, and to address the historical under-representation of these groups in highway construction skilled crafts. The primary objectives of OJT/SS are to increase the overall effectiveness of each STA's approved OJT program in connection with Federal-aid highway construction projects, and to seek other ways to increase the training opportunities for women, minorities, and disadvantaged individuals.

UNMET HIGHWAY NEEDS

109.
QUESTION: What is the current estimate of unmet highway needs, and how was this calculated?

RESPONSE: The biennial *Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance* Report to Congress (C&P report) includes a series of scenarios that estimate the combined capital spending by all levels of government that would be needed to achieve selected levels of performance over 20 years. The 2008 C&P report projected that an average annual investment of $105.6 billion (stated in constant 2006 dollars) from 2006 to 2026 would be required to maintain overall highway and bridge physical conditions and operational performance at current levels. In order to achieve this average annual funding level, current spending by all levels of government of $78.7 billion would need to increase annually by 2.72 percent faster than the rate of inflation. This assumes, however, that the price for travel faced by users does not incorporate the cost of congestion in a way that incentives users to pursue off-peak travel. To the extent that variable rate user financing such as congestion-based tolls are deployed, the estimated annual investment requirement is estimated to fall as low as $71.3 billion per year which implies a nearly 1 percent annual decrease in spending in constant dollar terms from the current level.

The 2008 C&P report also presented three alternative scenarios for improving highway conditions and performance, each of which was defined in terms of the ratio of estimated benefits to estimated costs associated with potential highway capital improvements. An average annual investment of $174.6 billion per year by all levels of government combined would be needed to fund all potential highway and bridge improvements whose benefits equal or exceed their costs. Applying more conservative standards of investing only in projects whose estimated benefits are 20 or 50 percent higher than their costs would reduce this average annual figure to an estimated $151.1 billion or $137.4 billion, respectively. Again, introduction of variable pricing to the model significantly reduces the range of costs to improve the system under the different cost benefit assumptions from $101.8 billion to $131.3 billion.

The C&P report scenarios were developed using investment/performance models that identify deficiencies on the Nation's roadways and bridges based on engineering criteria and impacts on net user costs, and apply benefit-cost analysis to evaluate and rank various potential capital improvements to address those deficiencies and lower costs experienced by users.

110.
QUESTION: Does this estimate include bridges? If not, what is that estimate?

RESPONSE: The scenarios presented in the 2008 C&P report referenced above include both highways and bridges.

INDIAN RESERVATION ROADS PROGRAM

111.
QUESTION: The Indian Reservation Roads (IRR) program, which is jointly administered by the FHWA's Federal Lands Highways program office and the Bureau of Indian Affairs (BIA), was established to address transportation needs of Tribes by providing funds for planning, designing, construction, and maintenance activities. IRR program funding is distributed to over 560 Indian Tribes and Alaska Native Villages in 32 States. Please provide a list of these Tribes and indicate in which States they are located.

RESPONSE: Please see the following table. This file is set up by State and identifies the federally recognized Tribes that have IRR facilities or land in that State. Tribes with land in multiple States are shown in each State.

112.
QUESTION: Please provide a table that shows a breakdown of how the IRR program funding was distributed in fiscal year 2010 by Tribe.

RESPONSE: Please see the following table. This file shows the tribal shares (including planning funds) that were provided to each Tribe in FY 2009 and how each portion of the Relative Need Distribution Formula contributed to the total tribal share.

IRR FUNDING FORMULA

113.
QUESTION: The IRR funding formula includes three factors – the cost to complete the facility; the vehicle miles traveled on the facility; and the current Tribal population. For how long has this formula been used and describe the process by which the formula was developed? How does it differ from the previous formula that was used?

RESPONSE: The funding formula for the IRR Program is called the Relative Need Distribution Formula (RNDF) and was developed through negotiated rulemaking between the Tribes and the Federal Government. It became effective in FY 2005 and is included and fully described in 25 CFR 170. It contains three factors: Cost to Construct (CTC); Vehicle Miles traveled (VMT); and Tribal Population. The previous IRR funding formula had similar factors, Cost to Improve, VMT, and Population.

The methods of calculating the CTC and VMT changed when the RNDF was adopted. The previous the Cost to Improve calculation utilized the FHWA Cost Indices for roads and was based on owner specified future surface types. The current CTC is based on actual costs for the work to be constructed in order to have a road meet a designated adequate design standard. The VMT under the old formula used a 20 year average projected average daily traffic (ADT) in its calculation, while the current formula uses actual or default ADT based on functional classification in the calculation. Population in the old formula was based on the BIA Labor Force Report, while the current population database is the American Indian – Alaska Native population tables made available through the Department of Housing and Urban Development.

114.
QUESTION: Please provide a table that lists each of the IRR formula factors for each Tribe.

RESPONSE: Please see the following table. This file shows the tribal shares (including planning funds) that were provided to each Tribe in FY 2009 and how each portion of the Relative Need Distribution Formula contributed to the total tribal share.

115.
QUESTION: How frequently is the cost to complete formula factor updated? When was it last updated and who is responsible for calculating this cost?

RESPONSE: The cost to construct (CTC) factors are updated continuously by both the Tribe and the BIA throughout the year as information is gathered and submitted to the system. The Cost Tables used in the CTC calculation is a snapshot of the factors taken on August 15 of each year. The updating of the actual data information on the roads that contribute to the CTC is the responsibility of the Tribe. The process is explained in 25 CFR 170.

RAPID GROWTH OF THE IRR INVENTORY

116.
QUESTION: The size of the IRR inventory has increased significantly in recent years – from 100,000 miles at the time the IRR inventory report was submitted to Congress in 2008 to 125,000 miles today. This is a staggering amount of growth for a system that was only as little as 30,000 miles just a few years earlier. Please provide a table that shows the size and composition of the IRR inventory by year for each of the last 10 years.

RESPONSE: Please see the following table. This file shows the composition (actual and proposed) and size of the IRR Inventory, by ownership, since 2000.

117.
QUESTION: What led to such a dramatic increase in the size of the inventory in such a short period of time?

RESPONSE: The IRR Program Final Rule, 25 CFR 170, eliminated a 2 percent/year increase restriction in the inventory that had been in place prior to its publication. In addition, the Final Rule also changed the eligibility requirements for an IRR road. These are the two primary reasons for the significant increase in the size of the inventory.

118.
QUESTION: Please elaborate on how this inventory is updated. Specifically, who is responsible for updating the inventory, what is the process for doing so, and how frequently is it done? Furthermore, are there checks and balances in place to verify that the information being provided is accurate and whose responsibility is it to check this?

RESPONSE: The process is described in 25 CFR 170. The Tribes, who are responsible for updating their inventory, collect and enter data into the Road Inventory Field Data System (RIFDS), which is the data system for the IRR Inventory. The data is then reviewed and approved by the BIA Regional Offices and submitted to BIA/DOT for final review and acceptance into the Inventory. If deemed that data is missing, the submittals are returned to the Tribe for further clarification and the submittal process starts again. This work is generally ongoing throughout the year, but the fiscal year inventory is closed to further updates on or about August 15 of each year.

119.
QUESTION: Has the change in the IRR inventory led to a shift in how the funds are distributed among the Tribes? For instance, are any Tribes getting less funding now then what they were receiving a few years ago, either in terms of real dollars or as a percentage of the national total?

RESPONSE: The publication of 25 CFR 170 changed the fund distribution process within the IRR Program from a regional priority system to a tribal share system. In a regional priority system, funds are provided to each BIA Region and then the region worked with the Tribes within their region to develop a priority list of projects for the funding that was made available. In the tribal share system, each tribe is provided with its "tribal share" of funding for projects and activities that it determines are important to the Tribe. As a result, Tribes under the tribal share system may have to wait years before they have enough money for their needed projects.

The significant increase in the inventory has also shifted funding among Tribes. If a Tribe places more roads into their inventory, it will generate more funds for that Tribe. Some Tribes have increased their inventory tremendously and now receive substantially more funding than in the past. But, their respective increases have come at the expense of other Tribes, whose shares have decreased. Tribal shares can increase or decrease in any given year depending on inventory updates.

IRR PROGRAM CHANGES

120.
QUESTION: In addition to the rapid increase in the size of the IRR inventory, the funding levels for the IRR program have grown dramatically under SAFETEA-LU, increasing from $275 million in fiscal year 2004 to $450 million in fiscal year 2009. How have these changes impacted the operation of the program and have we seen any changes in the types of projects that have been funded under this program?

RESPONSE: The increase in the IRR program funding has positively contributed to the number and size of projects undertaken each year by the Tribes. Even though a majority of Tribes receive small amounts of IRR Program funds, the increase in the overall program size has provided an increase in funding to other parts of the IRR Program like the IRR High Priority Program (IRRHPP). IRRHPP provides up to $1,000,000 to those small Tribes that do not receive enough funding for their highest priority project. The increase in the IRR Program has nearly doubled the amount of money made available each year to IRRHPP. Since 2005, the IRRHPP has provided funding for more than 150 projects.

IRR MAINTENANCE COSTS

121.
QUESTION: Tribes are allowed to use their IRR funding for road and bridge maintenance costs. Yet, if Tribes elect to spend their Federal dollars this way, the money spent has no impact on the cost to complete factor in the formula. It seems that a Tribe could skew the funding formula by electing to use a significant portion of their IRR funding on maintenance costs, thereby gaining an advantage, so to speak, on other Tribes that are spending money on construction and reducing the cost to complete their system of roads. Is there anything in the formula that prevents Tribes from using the formula to their advantage in this way? For instance, is there a limit to how much a Tribe can spend on maintenance activities during a given year or over a period of time?

RESPONSE: SAFETEA-LU allows Tribes to utilize up to 25% of their IRR Program funds for maintenance activities. In most cases, Tribes do not have enough money to properly maintain the IRR roads in their inventory and the IRR Program funding is the only source of funding they have. Basic maintenance needs and needs caused by issues such as harsh winters place a great burden on the Tribes. In many cases, Tribes face a difficult decision in determining the best use of their limited funds, and if they choose to spend funds on maintenance, they have to postpone much needed road improvement projects.

IRR PROGRAM GUIDANCE

122.
QUESTION: The FHWA has indicated that it is working with the BIA and the Tribes to improve the guidance used by the Tribes to collect data about the IRR inventory. When do you expect to issue this updated guidance?

RESPONSE: FHWA expects to complete the update during FY 2011 after completion of the tribal consultation process. This timeline aligns with FHWA's planned transition to new program guidance that addresses the Question 10 issue, which involves how much each type of road may count in the inventory.

FATALITY RATE ON IRR ROADS

123.
QUESTION: As was mentioned during the Subcommittee's hearing on housing and transportation challenges within Native American communities, the annual fatality rate on Indian Reservation Roads continues to be more than three times the national average. Please provide a table that shows total highway fatalities and the national fatality rate as compared to the number and rate of fatalities on Tribal lands for each of the last 5 years.

RESPONSE: Information on the number and rate of highway fatalities on a national basis are readily available from the National Highway Traffic Safety Administration (NHTSA). However, corresponding information relating to highway fatalities on Tribal lands is not available for two reasons: (1) the number of highway fatalities is dependent on the Tribes regularly reporting this information to the State DOTs and NHTSA, which does not always occur; and (2) the vehicle miles traveled specifically within Tribal land boundaries is not readily available to compute the fatality rates.

There is, however, data available from NHTSA on motor vehicle traffic fatalities by race and ethnicity (but not necessarily within the Tribal boundaries). NHTSA's Fatality Analysis Reporting System (FARS) obtains race and ethnicity from official death certificates. Due to the delay in obtaining death certificates from the States, data is currently only available through 2007. The 2008 data is expected to be released late summer 2010. Please see the following table.

Motor Vehicle Fatalities, by Race and Ethnicity

	2003	2004	2005	2006	2007
Hispanic	5,145	5,169	5,513	5,405	4,530
White	27,604	26,206	26,182	24,816	25,154
African American	4,704	4,524	4,476	4,511	4,498
American Indian	650	629	626	704	650
Asian	539	513	551	508	483
Native Hawaiian or Pacific Islander	42	48	65	57	58
Others, multiple races, unknown	4,200	5,747	6,097	6,707	5,886
Total	42,884	42,836	43,510	42,708	41,259

The Table that follows indicates that the fatality rate of Native Americans per 100,000 population was approximately two and a half times the average of other races and ethnicities, as of 2007 (latest data available).

Fatalities, Population, and Fatality Rates, by Race and Ethnicity, 2007

Race and Ethnicity	Fatalities	Population	Fatality Rate per 100,000 Population
Hispanic	4,530	45,472,384	9.96
White	25,154	199,059,764	12.64
African American	4,498	36,808,839	12.22
American Indian	650	2,299,352	28.27
Asian	483	12,909,770	3.74
Native Hawaiian or Pacific Islander	58	426,322	13.60
Total	41,259(1)	301,290,332(2)	13.69

(1) Includes 5,886 for All Other Races and Unknowns
(2) Population—U.S. Census Bureau, includes 4,313,901 for All Other Races
Note: Since race and ethnicity were not known for a percentage of the total fatalities, fatality rates in each race and ethnicity category are underestimated.

124.
QUESTION: Are there factors, such as unsafe road conditions or inadequate signage that contribute to this higher fatality rate on Tribal lands and what steps is the FHWA taking to address this staggering problem?

RESPONSE: The NHTSA report indicated that Native Americans showed the highest percentage of unrestrained passenger vehicle occupants killed (75% versus 55% national average). Also, 48% of Native Americans were killed in alcohol-impaired driving crashes versus the national average of 32%. In addition, many of the roads in tribal communities are unpaved; and passageways to schools, medical clinics, and other facilities need to be improved.

FHWA has implemented the following programs and plans:

- Highway Safety Improvement Program (HSIP) funding for Tribal safety. At least four States – including three with substantial Tribal lands – have taken a leadership role in providing HSIP funds for safety improvements on Tribal lands.

- Safe Routes to School (SRTS) funding for Tribal safety. Several States have reached out to Tribes to promote SRTS funding.

- Road Safety Audits consist of a multidisciplinary team of safety experts to identify road safety issues within a Tribe, and identify opportunities to improve the safety for all road users. Road Safety Audits have successfully been conducted on Tribal lands in at least six States thus far.

- The Office of Federal Lands Highway is currently working with six Tribes either directly, or through Tribal Technical Assistance Program (TTAP) Centers and the BIA, to develop a tribal safety plan. A goal of implementing safety plans with twenty Tribes has been set for fiscal year 2012.

- FHWA has hosted a national Tribal safety summit meeting, as well as six state-based Tribal safety summits across the country, which brings Federal, State, and Tribal representatives together to identify safety issues and develop targeted strategies to reduce Native American fatalities and injuries.

- The Office of Federal Lands Highway has developed a Safety Management Implementation Plan, in conjunction with the BIA, which we are now updating in partnership with the Tribal leadership.

FHWA'S STEWARDSHIP ROLE IN THE IRR PROGRAM

125.
QUESTION: Prior to the enactment of SAFETEA-LU, the FHWA's role was to provide stewardship and oversight to the IRR program and it was the BIA role to work directly with the Tribes by delivering the funds and providing technical assistance. However, Section 1119(g)(4) of SAFETEA-LU modified the IRR program to allow Tribal governments to enter into agreements directly with the FHWA to administer the IRR program. How many Tribes have elected to contract directly with the FHWA and how has this number changed since the passage of SAFETEA-LU?

RESPONSE: More than 75 Tribes now work directly with FHWA under IRR Program Agreements and it is expected that the number will increase to over 100 at the start of FY 2011. The number has increased from four Tribes in 2006, to five in 2007, 14 in 2008, and 43 in 2009.

IRR FUNDING NEEDS

126.
QUESTION: The FHWA's Conditions and Performance Report typically includes information on the costs to maintain or improve our Nation's highways and bridges, including those on Federal lands. Please provide the latest figures for the IRR system.

RESPONSE: In 2009, the cost to construct of the IRR Program was $62.7 billion. Please see the following table for detailed information.

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION
U.S. DEPARTMENT OF TRANSPORTATION
RESPONSES TO QUESTIONS FOR THE RECORD

SUBCOMMITTEE ON TRANSPORTATION, HOUSING AND URBAN DEVELOPMENT, AND RELATED AGENCIES
HOUSE COMMITTEE ON APPROPRIATIONS

APPENDIX VS. CONGRESSIONAL JUSTIFICATION

QUESTION: The Fiscal Year 2011 Appendix listed the funding request for the St. Lawrence Seaway Development Corporation (SLSDC) as $32,150,000. The Congressional Justification submitted listed the funding request as $32,324,000. Which number is correct?

RESPONSE: The correct FY 2011 appropriations request for the SLSDC is $32,324,000, as reported in the Congressional Justification.

QUESTION: Has any effort been made or will any effort be made to reconcile the difference?

RESPONSE: Due to a clerical omission, the correction was not included in the errata budget documents sent to the Congress earlier this year.

QUESTION: If an effort has not been made, please explain why. If an effort is planned to be made, please explain when it will be made and why it has not been made to date. If no effort to reconcile the difference is to be made, please explain why this is the case.

RESPONSE: The Department and OMB are in agreement that the $32,324,000 figure is the correct request level.

FULL-TIME EMPLOYEES

QUESTION: Please list the number of Full Time Employees for the Saint Lawrence Seaway Development Corporation (SLSDC) for the past 10 years.

RESPONSE:

SLSDC Full-Time Employees at End of Fiscal Year *

FY 2000	148	FY 2005	146
FY 2001	148	FY 2006	145
FY 2002	152	FY 2007	144
FY 2003	153	FY 2008	141
FY 2004	149	FY 2009	138

* includes full time permanent employees only; does not include temporary employees hired for short-term projects

EMERGENCY RESERVE ACCOUNT

QUESTION: In table format, for fiscal years 2007, 2008, 2009, 2010 (estimate), and 2011 (proposed), please provide the beginning balance, total non-federal revenue, any other revenues, and ending balance in the emergency reserve account.

RESPONSE:

SLSDC Emergency Reserve Account
(in millions of dollars)

	2007 (actual)	2008 (actual)	2009 (actual)	2010 (est.)	2011 (est.)
Beginning Balance	$11.1	$11.0	$11.4	$11.3	$10.9
Non-Federal Revenue	1.4	1.2	1.1	0.8	0.9
Transfers In	0.2	0.0	0.8	0.0	0.0
Transfers Out	1.7	0.8	2.0	1.2	0.9
Year-End Balance	$11.0	$11.4	$11.3	$10.9	$10.9

QUESTION: Please also indicate the reasons for any higher or lower than expected emergency reserve account revenues.

RESPONSE: All emergency reserve account revenues are generated by the SLSDC's non-federal revenue sources. No appropriated funds are included in the account. The SLSDC reported fiscal year 2009 non-federal revenues of $1,073,000, a decrease of $149,000 as compared to fiscal year 2008.

This was principally due to lower short-term interest rates on the SLSDC's investments in the U.S. Treasury's Minority Bank Program and a decrease in duty-free store concessions. The duty-free decrease was due principally to the store's closure from June 1 to July 13, 2009 caused by a protest between the Canadian Akwesasne Mohawk Territory and Canadian Customs that closed the international crossing to general vehicle traffic.

OFFSETTING COLLECTIONS / NON-FEDERAL REVENUE

QUESTION: Please provide a table comparing the offsetting estimates included in the budget justifications to actual collections for each fiscal year 2007 through 2009, and revised estimates for fiscal year 2010.

RESPONSE:

SLSDC Non-Federal Revenues
(in thousands of dollars)

	Fiscal Year			
	2007 (actual)	2008 (actual)	2009 (actual)	2010 (est.)
Actual non-federal revenues	$1,432	$1,222	$1,073	$ 773
Estimate in budget justification	$ 900	$ 900	$ 900	$ 900
Difference	$ 532	$ 322	$ 173	$ (127)

QUESTION: Please provide a table indicating the sources of non-federal revenue and the funding from each for fiscal years 2005 through 2009 plus estimates for fiscal years 2010 and 2011.

RESPONSE:

SLSDC Non-Federal Revenues
(in thousands of dollars)

	Fiscal Year				
	2007 (actual)	2008 (actual)	2009 (actual)	2010 (est.)	2011 (est.)
Interest on retained earnings	$ 533	$ 510	$ 373	$ 230	$ 455
Concession operations	369	426	304	292	250
Rental of Admin. Building	64	35	43	50	35
Non-commercial tolls	113	96	106	106	100
Miscellaneous [1]	353	155	247	95	60
Total	$1,432	$1,222	$1,073	$ 773	$ 900

[1] Miscellaneous revenue includes vessel tie-up and tug services, sale of excess property, and Eisenhower Lock Visitors' Center turnstile receipts.

HARBOR MAINTENANCE TRUST FUND

QUESTION: Please provide a table showing the Harbor Maintenance Trust Fund revenues, transfers, and year-end balances for the last five fiscal years, plus the estimates for fiscal years 2010 and 2011.

RESPONSE:

Harbor Maintenance Trust Fund (HMTF)
(in thousands of dollars)

Fiscal Year	Trust Fund Revenues	Transfers	Year End Balance [1]
2005	$1,122,630	$ 705,956	$2,782,936
2006	$1,320,934	$ 798,121	$3,305,749
2007	$1,415,764	$ 909,874	$3,811,638
2008	$1,626,426	$ 786,485	$4,651,580
2009	$1,268,494	$ 807,539	$5,112,535
2010 (est.)	$1,343,000	$ 828,000	$5,519,000
2011 (est.)	$1,538,000	$ 797,000	$6,260,000

[1] HMTF year-end balance includes revenues, transfers, and other financial transactions

Source: Bureau of Public Debt, U.S. Treasury; Appendix - Budget of the United States Government, Fiscal Year 2011

The increase in the fund's surplus results from the significant growth in waterborne trade imports experienced at U.S. ports.

TRADE DEVELOPMENT

QUESTION: What trade development events does the SLSDC plan to undertake during the remainder of fiscal year 2010 and during fiscal year 2011?

RESPONSE: The SLSDC continues to work closely with its Canadian counterpart, the St. Lawrence Seaway Management Corporation (SLSMC), to retain existing traffic and identify and attract new commercial customers.

In early FY 2010, officials from the two Seaway Corporations visited several European ports, terminals, and short sea operators to better understand the differences between European and North American short sea operations. The Great Lakes Seaway System is currently developing regular short sea shipping feeder operations for the movement of containers between Montreal and Great Lakes ports. Meetings occurred with the ports of Amsterdam and Rotterdam, The Netherlands, and Duisburg, Germany, along with the Associated British Ports, which owns and operates 21 ports all around the United Kingdom and handles approximately a quarter of the country's seaborne trade. Benchmarking was done in detail along with a review of best practices. Discussions also included stories of success and opportunities for improvement.

The trip also served as an introduction for the planning of the November 2010 Seaway Trade Mission. The mission, co-sponsored by the two Seaway Corporations, will make stops in Amsterdam and Rotterdam, The Netherlands; Antwerp, Belgium; and London, England.

The mission will provide Great Lakes St. Lawrence Seaway System stakeholders with the opportunity to work with industry leaders proficient in conducting short sea shipping operations on a daily basis as well as reconnect with current users and prospective customers. In addition, representatives from the ports of Amsterdam and Rotterdam and the Associated British Ports will conduct workshop meetings with mission delegates.

In addition to the mission, the SLSDC will also market the Great Lakes Seaway System at two of the largest breakbulk conferences in North America and Europe. The St. Lawrence Seaway is a major international transportation route for the movement of breakbulk cargoes, which are packaged, non-containerized cargo, and shipped as units (bags, bales, barrels, boxes, cartons, drums, pallets, sacks, etc.). The SLSDC and SLSMC will sponsor an information booth at both events and market the binational waterway to shippers, carriers, and freight forwarders. During each event, senior-level meetings will take place with current and potential users of the Seaway.

Finally, the SLSDC participated in the annual Seatrade Cruise Shipping Convention, which serves as North America's largest conference and exhibition for the cruise ship industry. In March 2010, the SLSDC and Great Lakes Cruising Coalition co-hosted an informational booth to promote the Great Lakes Seaway System as an attractive cruise ship destination. The Seaway was marketed at the event as one of the safest destinations for cruise ships and a comfortable environment for travelers that are seeking vacation options closer to home. Efforts made by the SLSDC at the Seatrade Convention over the past decade have resulted in three additional cruise ships making voyages in the Great Lakes.

SEAWAY TRAFFIC

QUESTION: In table format, please provide Seaway traffic levels over the past five years and indicate the difference between the sections.

RESPONSE:

St. Lawrence Seaway Tonnage and Transit Levels
(tonnage in metric tons)

	Montreal-Lake Ontario Section		Welland Canal Section		Total Seaway [1]	
	Tonnage	Transits	Tonnage	Transits	Tonnage	Transits
2005	31,273,322	2,695	34,149,554	3,443	43,301,146	4,361
2006	35,571,985	2,942	37,419,664	3,673	47,164,160	4,613
2007	31,955,290	2,878	34,935,425	3,671	43,010,191	4,450
2008	29,353,072	2,703	33,579,911	3,517	40,798,092	4,232
2009	20,698,906	2,395	26,380,459	2,799	30,707,996	3,631

[1] The "Total Seaway" column represents tonnage and transits through each section (Montreal-Lake Ontario and Welland Canal), but only counting them once if moved through both sections.

The Montreal-Lake Ontario section of the St. Lawrence Seaway comprises those locks and waters between Montreal, Quebec, and the Western portion of Lake Ontario. This section includes seven Seaway locks – two owned and operated by the U.S. SLSDC and five owned by the Canadian government and operated by the Canadian SLSMC. The Welland Canal section of the Seaway encompasses eight locks owned by the Canadian government and operated by the Canadian SLSMC that bypass Niagara Falls between Lake Ontario and Lake Erie. Commercial transits and tonnage that move through any Seaway lock in either section are counted for statistical purposes for that particular section. The "total Seaway" category for statistics represents tonnage and transits that move through both sections and are counted only once.

QUESTION: What is the reason for the increase/decrease realized in 2009?

RESPONSE: Weak market and economic conditions led to one of the worst shipping seasons in the St. Lawrence Seaway's history as commercial tonnage fell by 25 percent in all cargo categories but grain to 30.7 million metric tons (mmt) during the 2009 season. Grain exports were up 8 percent over the 2008 period to 8.2 mmt, led by a 47 percent increase in U.S. grain exports.

The weakened North American economy greatly impacted steel and electricity production and thus impacted iron ore imports (down 42 percent to 7 mmt) and coal (down 21 percent to 2.9 mmt). In addition, the lack of growth in the manufacturing industry reduced the movement of general cargoes, such as manufactured iron and steel, steel slabs, and coils (down 52 percent to 911,000 mmt).

Although overall tonnage was down in 2009, the St. Lawrence Seaway did experience gains in several new commodities, specifically tug/barge container movements (66 percent increase) and specialty cargoes. During the 2009 season, more than 1.7 mmt of new cargoes were moved on the Seaway.

CAPACITY

QUESTION: How does the SLSDC define maximum capacity for shipping on the St. Lawrence Seaway System?

RESPONSE: In developing several of its operational performance metrics, the SLSDC determined that it takes approximately one hour to assist a vessel through one of the U.S. Seaway locks. To that end, the SLSDC has historically measured "full capacity" based on 24 vessel transits per navigation day. In addition to measuring commercial vessel transits, the SLSDC also includes pleasure craft and non-commercial transits in the overall transit totals to reflect actual annual capacity.

QUESTION: What percentage of capacity is currently being used by commercial shippers on the St. Lawrence Seaway System?

RESPONSE: Based on the methodology described in the previous response, the SLSDC recorded a 45 percent capacity rate for the U.S. Seaway locks in 2009. This result was based on 1,797 commercial transits and 1,162 pleasure craft/non-cargo transits during the 6,576-hour navigation season, which equated to 10.8 lockages per navigation day.

QUESTION: Please describe any efforts the SLSDC made in 2009 to increase the usage of the St. Lawrence Seaway System by commercial shippers?

RESPONSE: In FY 2009, the SLSDC and the Canadian SLSMC participated in several international and domestic trade promotional events to include trade shows, conferences, workshops, annual meetings, and working group forums. These efforts provided an opportunity to promote the System, network with current and potential customers, and attract interest to the Great Lakes Seaway System. The following provides an overview of these efforts:

In early FY 2009, the SLSDC and SLSMC led a 17-member delegation of U.S. and Canadian trade and maritime representatives from the Great Lakes St. Lawrence Seaway region on a Seaway Trade Mission to Genoa, Italy, and Istanbul, Turkey. This was the third time a Seaway mission delegation targeted Italy (previous visits were in 1995 and 1986) and the second visit to Turkey (first in 2000). Both Mediterranean nations benefit from favorable locations on the growing Asia-Europe-North America trade route through the Suez Canal. Seaway marketing officials focused on steel imports, grain exports, and project cargoes (including oversized or overweight loads). Both nations have vibrant steel export companies and serve as a major supplier for several large-scale North American pipeline projects, a fact that attracted U.S.-Canadian attention, especially from port officials in Toledo, Ohio, and Duluth, Minnesota. Italy's standing as the world leader in pasta production makes it an ideal market for importing durum wheat, a staple export commodity for the Seaway System.

The Seaway delegation pointed out to Italian and Turkish officials and industry leaders that the Great Lakes Seaway System is fast evolving from one long focused exclusively on bulk and general cargoes to a more diverse and dynamic transportation system increasingly integrated with other transportation modes and increasingly employing modern communication and navigation technologies. Meetings with international shipowners, operators, builders, financiers, and businessmen and women working in manufacturing, mining, and agricultural industries helped establish person-to-person contacts.

In November 2008, the SLSDC co-sponsored a two-day "Highway H_2O" conference in Toronto, Ontario, to bring together current and prospective commercial users in North America to focus on recent developments affecting commercial waterborne transportation on the Great Lakes Seaway System. Participants gained insight on where trade markets are headed, where new cargo opportunities exist, and how to ensure that the Great Lakes Seaway System marine industry is well positioned to respond to the changing and evolving markets. More than 200 industry leaders participated in the event.

In February 2009, SLSDC officials met with senior management at Kirby Corporation (largest U.S. liquid barge operator) and Couch Lines (formerly Osprey Lines) to discuss barge operations, learn best practices, and develop a better understanding of the economics behind tug-barge shipments. The Great Lakes Seaway System is currently developing a niche market for the movement of containerized cargoes on tug-barges through the St. Lawrence Seaway. These meetings provided invaluable information that was relayed to System stakeholders, including ports, terminals, labor, and carriers.

In March 2009, the SLSDC participated in the annual Seatrade Cruise Shipping Convention, which serves as North America's largest conference and exhibition for the cruise ship industry. The SLSDC and Great Lakes Cruising Coalition co-hosted an informational booth to promote the Great Lakes Seaway System as an attractive cruise ship destination. The Seaway was marketed as one of the safest destinations for cruise ships and a comfortable environment for travelers that are seeking vacation options closer to home.

QUESTION: Please describe any efforts the SLSDC plans to make in 2010 to increase the usage of the St. Lawrence Seaway System by commercial shippers.

RESPONSE: In FY 2010, the SLSDC continues to find new opportunities to market and promote the Great Lakes St. Lawrence Seaway System in an effort to retain current customers and attract new ones. Given the Seaway's long-standing position as a leading transportation route for the movement of bulk commodities, the U.S. and Canadian Seaway Corporations continue to work to identify new commodities to diversify the waterway's cargo exposure.

The following initiatives are either underway or planned in FY 2010 to increase Seaway System commercial trade:

In early FY 2010, officials from the two Seaway Corporations visited several European ports, terminals, and short sea operators to better understand the differences between European and North American short sea operations. The Great Lakes Seaway System is currently developing regular short sea shipping feeder operations for the movement of containers between Montreal and Great Lakes ports. Meetings occurred with the ports of Amsterdam and Rotterdam, The Netherlands, and Duisburg, Germany, along with the Associated British Ports, which owns and operates 21 ports all around the United Kingdom and handles approximately a quarter of the country's seaborne trade. Benchmarking was done in detail along with a review of best practices. Discussions also included stories of success and opportunities for improvement.

The trip also served as an introduction for the planning of the November 2010 Seaway Trade Mission. The mission, co-sponsored by the two Seaway Corporations, will make stops in Amsterdam and Rotterdam, The Netherlands; Antwerp, Belgium; and London, England.

On the domestic front in 2010, the SLSDC is supporting the ongoing Erie Inland Port Facility initiative to develop short sea shipping operations between the Port of Montreal and U.S. Lake Erie ports in Erie, Pennsylvania, and Conneaut, Ohio. The SLSDC is working with the U.S. Coast Guard and U.S. Customs and Border Protection to ensure that both U.S. port facilities are compliant with U.S. Coast Guard and U.S. Customs and Border Protection federal regulations for handling foreign flag ships and containers. The SLSDC has been instrumental in facilitating senior-level meetings with representatives from the Erie Economic Development Corporation and both federal agencies. This project provides a viable opportunity to move trucks off congested highways in the Midwest and onto the waterway. The initiative's first container movement could arrive before the end of the 2010 navigation season. During 2010, SLSDC officials will also conduct numerous meetings with North American carriers and shippers in raising the profile of this new opportunity.

In 2010 the SLSDC will also continue to expand the waterway's fastest growing market – renewable energy commodities, especially wind energy components. The SLSDC is an active member of the Great Lakes Wind Collaborative and participates in major wind conferences, delivers speeches and presentations to prospective wind industry customers, and provides technical support on the Seaway's capability to handle over-dimensional traffic.

Also in FY 2010, the SLSDC is expanding its efforts to attract Maersk, the world's largest waterborne carrier company, into the Great Lakes for possible short sea shipping movements. The SLSDC initially met with Maersk officials during the 2009 Journal of Commerce Breakbulk Transportation Conference in New Orleans, Louisiana. Maersk has shown great interest in the Great Lakes and meetings are being arranged with the ports of Toledo, Ohio; Cleveland, Ohio; Erie, Pennsylvania; Oswego, New York; and the proposed Melford International Terminal in Nova Scotia.

Additionally, the SLSDC will continue to meet with Great Lakes state transportation officials to discuss the Melford International Terminal project currently under development in Nova Scotia. This facility, scheduled to open in 2013, will serve as a major container terminal, rail intermodal facility, and logistics park along the Strait of Canso. It is expected to serve as a transfer point for container traffic from Asia and the Indian subcontinent that is shipped to Eastern North America via the Suez Canal. The project presents significant opportunities for many Great Lakes ports to accommodate some of this new container traffic via the Seaway System.

Finally, the SLSDC will further develop its association outreach efforts in FY 2010 to inform and educate staff and association members on the benefits of commercial cargo movements on the Seaway System. Senior-level visits to associations representing mining, forestry, metals, pipe, gas shale, and renewable energies are anticipated throughout the fiscal year.

DELAYS

QUESTION: Please provide a table listing the number of hours of delays from malfunctioning lock equipment for the past five years.

RESPONSE:

Delays to U.S. Seaway Availability
Due to Malfunctioning Lock Equipment

Year	Delay Hours Due to Malfunctioning Lock Equipment	Total Navigation Hours During Season
2005	2.7	6,720 *(280 days)*
2006	2.5	6,792 *(283 days)*
2007	5.0	6,792 *(283 days)*
2008	6.6	6,792 *(283 days)*
2009	3.0	6,576 *(274 days)*

SEAWAY STATISTICS

QUESTION: Please provide an updated table of information from last year's questions for the record, providing data from performance measures including the percentage of Seaway System navigation days open, rolling average of international tonnage and per-transit delay hours, cruise vessel itineraries and passengers and ratio of administrative overhead versus operating expenses.

RESPONSE:

SLSDC Selected Performance Results

(Results are reported by calendar year, except for administrative overhead)

Measures	2005	2006	2007	2008	2009
Percentage of Seaway availability	99.5%	99.1%	98.9%	99.1%	99.7%
Cruise vessel itineraries	57	57	56	54	80
Cruise vessel passengers	8,500	8,500	6,254	5,854	7,466
Ratio of administrative overhead versus operating expenses *(fiscal year)*	25%	25%	25%	25%	21%
	2001-05	2002-06	2003-07	2004-08	2005-09
Five-year rolling average of per-transit lock malfunction delays *(in hours)*	.001445	.001081	.001184	.001672	.001457
Five-year rolling average of international tonnage *(in millions of metric tons)*	7.6	7.8	8.1	8.1	7.4

Other noteworthy agency performance results include: (1) achieving the agency's 46th consecutive unqualified, or "clean", annual financial audit with no material weaknesses or reportable conditions *(met annual goal)*; and (2) performing safety and environmental inspections on 100 percent of ocean vessels during their first inbound voyage into the St. Lawrence Seaway in Montreal, Quebec *(met annual goal).*

BALLAST WATER

QUESTION: Please describe all efforts made by the SLSDC in FY 2009 and efforts carried out or planned for FY 2010 to address invasive species transmitted by ballast water on the St. Lawrence Seaway.

RESPONSE: Over the past several years, the SLSDC has taken a pro-active approach in addressing the issue of aquatic invasive species on the Great Lakes St. Lawrence Seaway System. The SLSDC, its Canadian counterpart, and other U.S. and Canadian federal partners, continue to make notable progress in ballast water management and efforts to prevent any new introductions of aquatic invasive species via commercial ships entering Seaway waters.

Following similar Canadian Seaway regulations established in 2006, the SLSDC issued an enhanced regulation for the start of the 2008 navigation season that required all ocean-going ships entering the U.S. sector of the St. Lawrence Seaway and destined for American ports to take new measures to prevent the introduction of invasive species. The U.S. Seaway regulation requires vessels to flush ballast tanks containing only small amounts of water or sediment with saltwater in an area 200 nautical miles from any North American shore before entering the binational waterway. The regulation also increases the number of ship inspections for ocean-going vessels performed in Montreal by inspectors from the U.S. and Canadian Seaway entities, the U.S. Coast Guard (USCG), and Transport Canada. The rule also requires additional inspections for ocean-going vessels making secondary transits and increases the percentage of tanks subject to inspection. In addition, it requires all ships entering the Seaway to measure the salinity levels of their tanks to assure that there is a sufficiently high concentration of salt in the ballast water to kill invasive species. Ships that fail to saltwater flush may either return to the open ocean to conduct a ballast water exchange or must retain the ballast in their on-board tanks. Non-compliant ships can be fined up to $36,625 per incident by the SLSDC.

A February 2010 report prepared by the Great Lakes Seaway Ballast Water Working Group found that during the 2009 navigation season, 100 percent of vessels bound for the Great Lakes Seaway received a ballast tank exam. The Working Group is comprised of representatives of the SLSDC, the Canadian SLSMC, the USCG, and Transport Canada.

A total of 5,450 ballast tanks, onboard 295 vessels, were sampled and had a 97.9 percent compliance rate. Vessels that failed to properly manage their ballast tanks were required to either retain the ballast water and residuals on board, treat the ballast water in an environmentally sound and approved manner, or return to sea to conduct a ballast water exchange. In addition, 100 percent of ballast water reporting forms were screened to assess ballast water history, compliance, voyage information and proposed discharge location. As a result of both U.S. and Canadian Seaway and USCG regulations, the risk of an introduction of aquatic invasive species by ballast water into the Great Lakes has been mitigated to an extremely low level. In fact, earlier this year, the Great Lakes Aquatic Nonindigenous Species Information System, maintained by the National Oceanic and Atmospheric Administration (NOAA), documented that the last time a new non-native species was determined to have been established in the Great Lakes was 2006.

In addition to establishing regulations to enforce strict ballast water standards, the SLSDC also participated in NOAA's National Sea Grant College Program Dean John A. Knauss Marine Policy Fellowship to support the Corporation's greater involvement in environmental issues, including invasive species. In February 2009, the SLSDC selected Dr. Marvourneen Dolor from the NOAA fellowship program to work with the SLSDC staff in Washington, D.C. Dr. Dolor has a distinguished academic and professional background. She earned a doctorate in chemistry from the University of Maryland, and is a graduate of the U.S. Coast Guard Academy (graduated in the top 10 percent of her class). Dr. Dolor has worked in various research areas concerning environmental science, including invasive species issues. She has played a key role in advising the SLSDC senior staff on these matters as well as participating directly in various international conferences, meetings, and other high-level efforts organized or supported by the Corporation. In February 2010, Dr. Dolor was retained by the SLSDC as a post-graduate, full-time consultant for the next two years.

The SLSDC also continues to serve as an "ex officio" member of the Executive Steering Committee for the "Great Ships Initiative" (GSI), a cooperative effort aimed at ending the problem of ship-mediated invasive species in the Great Lakes Seaway System. The GSI program, launched in 2006 by the Northeast-Midwest Institute in collaboration with the American Great Lakes Ports Association, conducts independent research and testing of environmental technology and basin-wide harbor monitoring. In particular, the GSI program has established a land-based research, development, and technology evaluation facility in Superior, Wisconsin, to provide intensive testing services to vendors of ballast treatment prospects suitable to Seaway-sized vessels. GSI funding comes from the private and federal sectors, including federal grants and contributions, Congressional appropriations, foundations, and states.

Finally, the SLSDC initiated the Great Lakes Ballast Water Collaborative, in conjunction with the International Joint Commission, in the fall of 2009 to bring together industry and state and federal regulators on the issue of ballast water and invasive species in the region. One of the primary goals of the Collaborative is to share relevant, useful, and accurate information and foster better communication and collaboration among the key stakeholders engaged in the effort to reduce the risk of introduction and spread of aquatic nuisance species. A particular emphasis of the Collaborative has been to bring state representatives together with marine industry representatives and respected scientists to find workable and effective solutions to the aquatic invasive species challenge as they relate to the Great Lakes St. Lawrence Seaway System. The aim of the Collaborative is not to take away from any preexisting efforts in this regard, but rather to complement those efforts.

On September 24, 2009, the SLSDC co-hosted the Collaborative's first meeting in Detroit, Michigan, as an information-sharing forum on ballast water issues for the Great Lakes St. Lawrence Seaway System. The forum was facilitated by representatives from the Minnesota Sea Grant and Great Lakes Commission and attended by representatives from State and Provincial Governments (Minnesota, Wisconsin, Illinois, Ohio, Michigan, New York, and Ontario); U.S. and Canadian regulatory agencies (USCG, U.S. Environmental Protection Agency, U.S. National Park Service, NOAA, U.S. Geological Survey, Transport Canada, and Fisheries and Oceans Canada); senior executives from the U.S.-flag laker, Canadian-flag laker, and international fleets; and the leading academic ballast water researchers from Canada and the United States. The goals of the meeting were to share relevant information among the participants, increase dialogue among the key stakeholders involved in this issue, and to discuss ways of further reducing the risk of introduction and spread of invasive species through ballast water. Several follow-up meetings were held by smaller subgroups of the Collaborative – December 2009 in Ann Arbor, Michigan, and January 2010 in Toronto, Ontario. The second full membership Collaborative meeting took place on May 18, 2010 in Montreal, Quebec.

ASSET RENEWAL PROGRAM: OVERALL COST

QUESTION: What is the current total cost of the SLSDC's 10-year Asset Renewal Program (ARP)?

RESPONSE: The Seaway's ARP is currently estimated at $186 million over the 10-year period.

QUESTION: Does this cost include inflationary increases? If not, why?

RESPONSE: The ARP estimates listed in the SLSDC's FY 2011 budget request include inflationary increases. It is important to note that cost estimates for ARP projects beyond fiscal year 2011 are "project feasibility/conceptual" estimates and have an industry-recognized variation of 20-30 percent. Funding for each year of the ARP is constrained to funding targets for those years as estimated and approved by the Office of Management and Budget (OMB).

QUESTION: Please provide a copy of the SLSDC's Asset Renewal Program Semiannual Report to the Congress here.

RESPONSE: The March 30, 2010 ARP Semiannual Report to the Congress is currently in development. Following review by the Department and OMB, the report will be transmitted to the Appropriations Committees.

ASSET RENEWAL PROGRAM

QUESTION: Please describe why the five-year plan for the Asset Renewal Program changed from fiscal year 2010 to fiscal year 2011.

RESPONSE: Each year, as part of the annual budget request, the SLSDC prepares a five-year ARP Capital Investment Plan (CIP) to highlight the most current listing of planned ARP projects with cost estimates for the upcoming five-year period. The ARP CIP included in the FY 2011 Congressional Justification highlighted 41 projects estimated at $97.2 million for 2011-2015. The previous ARP CIP for FYs 2010-2014 included 41 projects estimated at $92.2 million. The $5 million increase is related to the addition of two new ARP projects – physical security upgrades to incorporate smartcard technology (FYs 2011, 2012, and 2013) and the replacement of the Eisenhower Lock Visitors' Center (FY 2013).

QUESTION: In table format, please provide the amount per project for FY 2011 as described in the FY 2010 Congressional Justification compared to that of the FY 2011 Congressional Justification.

RESPONSE:

Seaway Asset Renewal Program (ARP) FY 2011 Project Estimates in FY 2010 and 2011 Congressional Justifications

ARP Project No.	ARP Project Name	FY 2011 Estimate in FY 2010 CJ	FY 2011 Request in FY 2011 CJ
1	Snell Lock – Replace Fendering Downstream Guidewall Extension	—	$ 10,000
2	Eisenhower Lock – Rehabilitate Downstream Miter Gate	$1,515,000	4,250,000
3	Both Locks – Rehabilitate Mooring Buttons, Pins, and Concrete Along Guidewalls and Guardwalls	253,000	—
4	Both Locks – Culvert Valve Machinery – Upgrade to Hydraulic Operation	2,020,000	4,500,000
5	Both Locks – Rehabilitate and Insulate Winter Maintenance Lock Covers	253,000	—
6	Seaway International Bridge – Perform Structural Rehabilitation and Corrosion Prevention	4,666,000	3,466,000
7	Both Locks – Culvert Valves – Replace with Single Skin Valves	606,000	300,000
8	Floating Navigational Aids – Replace	61,000	61,000
9	Corporation Equipment – Replace Heavy and Light Equipment, Maintenance Vehicles and Shop Equipment	253,000	100,000
10	Both Locks – Upgrade Power Supply Infrastructure from Moses-Saunders Dam	76,000	50,000
11	Fixed Navigational Aids – Rehabilitate	202,000	100,000
12	Corporation Equipment – Upgrade/Replace Floating Plant	505,000	505,000
13	Corporation Facilities – Replace Roofs	91,000	130,000

14	Corporation Facilities – Replace Paving and Drainage Infrastructure	1,515,000	750,000
15	Eisenhower Lock Highway Tunnel – Rehabilitate	253,000	650,000
16	Seaway System – Upgrade GPS/AIS/TMS Technologies	101,000	50,000
19	Corporation Facilities – Upgrade Electrical Distribution Equipment	152,000	150,000
20	Both Locks – Upgrade Lock Status/Controls	152,000	75,000
21	Both Locks – Compressed Air Systems – Upgrade/Replace	1,515,000	—
22	Both Locks – Install Vessel Self Spotting Equipment	253,000	—
28	Snell Lock – Walls, Sills, and Culverts – Rehabilitate Concrete	2,020,000	—
30	Eisenhower Lock – Ice Flushing System – Upgrade	202,000	—
32	Snug Harbor – Rehabilitate Spare Gate Storage and Assembly Area	253,000	253,000
33	Both Locks – Upgrade Drainage Infrastructure in Galleries and Recesses	152,000	—
34	Both Locks – Improve Ice Control	101,000	100,000
35	Vessel Mooring Cells – Rehabilitate and Extend	1,010,000	100,000
51	Corporation Facilities – Upgrade Physical Security to Meet HSPD-12 Requirements	—	100,000
—	Engineering Design, Construction Inspection, Contracting Support, and Project Management [1]	312,000	—
	TOTALS	$18,492,000	$15,700,000

[1] Support costs were incorporated into the individual ARP projects for the FY 2011 request.

REPORTS TO THE COMMITTEE

QUESTION: In table format, please list all reports due to the Committee for fiscal year 2010, their expected delivery dates, and actual delivery dates. For any reports that were late, please explain why the reports were late.

RESPONSE:

SLSDC Reports Due to the Appropriations Committee in FY 2010

Title	Expected Delivery Date	Actual Delivery Date	Explanation
Asset Renewal Program (ARP) Semiannual Report – September 30, 2009	10/31/09	02/26/10	Delay in internal review and approval process
Asset Renewal Program (ARP) Semiannual Report – March 30, 2010	04/30/10	—	In DOT/OMB review and approval process

QUESTIONS FOR THE RECORD SUBMITTED BY CHAIRMAN OLVER TO THE U.S. DEPARTMENT OF TRANSPORTATION RESEARCH AND INNOVATIVE TECHNOLOGY ADMINISTRATION

SALARIES AND ADMINISTRATIVE EXPENSES

QUESTIONS: RITA requests $120,000 for 0.5 FTE (one position/half year) for the RD&T program. What potential benefits does RD&T foresee from this position? Please provide the factors used in estimating the cost of this additional FTE.

ANSWER: The proposed FY 2011 activities for this position will enhance Department-wide coordination by increasing internal and external stakeholder outreach. Specifically, it will increase DOT participation in initiatives of the Office of Science and Technology Policy (OSTP)/National Science and Technology Council, and will increase the use of Web 2.0 and other new technologies to better communicate DOT Research Development and Technology (RD&T) activities and identify areas for cooperation and synergies. The position will support enhanced Technology Transfer program implementation and include increased support of activities of the RD&T Planning Council and RD&T Planning Team members.

The $119,817 requested for the 0.5 FTE is calculated based on the following:

- average benefit rate (27%)
- administrative expenses (fixed amount per FTE based on agency total)
- FY 2011 pay raise (1.4%).

		FTE HALF YEAR	**HALF YEAR COST**
RD&T	GS-12	0.5	119,817

QUESTION: Can the committee anticipate a request for another 0.5 FTE in FY 2012 to make this position a whole FTE?

ANSWER: Yes, the annualization of the position will be required in FY 2012.

ALTERNATIVE FUELS RESEARCH AND DEVELOPMENT

QUESTION: What were the results, or what is the status, of the FY 2009 President's Hydrogen Initiative?

ANSWER: The FY 2009 funds supported five DOT projects cooperatively chosen and peer reviewed by the Department's hydrogen experts. These projects include developing the codes and standards needed to facilitate deployment of hydrogen power sources, and continuing work to solve the technical problems to facilitate hydrogen's transport in multiple commodity pipelines. These funds also being used to develop training tools (particularly via distance learning) aimed toward emergency responder safety when encountering hydrogen at crashes, spills and other incidents. This will improve the ability of commercial motor vehicle safety personnel to safely inspect hydrogen transport vehicles.

QUESTION: The core program has held constant over a number of years at $500,000. With the recent increased focus on "greener" and more sustainable fuels, is this amount still sufficient? What would an increase in this program buy?

ANSWER: With the amount requested, RITA will continue to coordinate, manage, and execute key components of the Department's alternative fuel activities.

RESEARCH, DEVELOPMENT AND TECHNOLOGY (RD&T) COORDINATION

QUESTION: Please provide a table illustrating the FY 2010 component research pieces coordinated by RD&T. Please include FY 2010 appropriated amounts.

ANSWER:

RD&T Coordination DOT Components
FY 2010 Appropriated Amounts (dollars in thousands)

DOT Components	**FY 2010 Appropriated**
OST	18,168
FAA	412,098
FHWA	643,627

FMCSA	11,106
FRA	41,587
FTA	66,721
NHTSA	110,457
PHMSA	9,634
RITA	10,737
TOTAL	1,324,135

QUESTION: Please discuss the progress, and problems encountered, in implementing GAO's recommendation to develop a searchable database for R&D activities.

ANSWER: Using modal budget submissions, RITA has been able to categorize research into program areas, allowing for report generation of priority and focus areas and research types (e.g., developmental, basic, applied). Project-level information, some of which is available at the modal level, is stored and reported within modes in different formats, in dissimilar categories, and at varying levels of detail. RITA has pursued approaches to pull this disparate information into one database without requiring all modes to re-enter all of their information under one system. This has presented considerable challenges with varying levels of difficulty and success. RITA has also been pursuing a unified DOT approach for entering *products* of research into a standardized database to aid in dissemination. RITA has also been focusing on linking the *people* managing and conducting the research across the modes.

We are now pursuing the possible use of required financial reporting systems that are consistent across all modes and that include project descriptors, as a potential means of getting some of the R&D information electronically in one common format. This approach shows promise and has been tested by one trial mode. Information from a second mode will be drawn this summer to see if there is consistency in project level data across at least these two modes. While problems in data quality have been identified this shows promise and, with additional effort, may be a viable approach to developing a Department-wide, searchable database at the project or research execution level.

QUESTION: Please discuss the progress, and problems encountered, in implementing GAO's recommendations on performance measures and performance goals.

ANSWER: GAO recommended that RITA develop and incorporate performance goals and an overall implementing strategy into RITA's annual budget process. GAO also recommended that RITA develop and incorporate common performance measures related to DOT's RD&T activities into the annual budget process.

RITA developed performance measures and targets in 2008. RITA's RD&T coordination program established a programmatic-review process addressing two of the four measures, requiring all DOT modal RD&T programs to provide comprehensive annual briefings. These briefings include updates on steps modal RD&T programs are pursuing to meet performance metrics, such as an outline of successful application of evaluation best practices, so that the DOT RD&T Planning Team members can assess and provide feedback to one other on the effectiveness of their programs. Annual reviews were not conducted in 2009 but will be planned for 2010.

The implementation of a Research Planning and Investment Control process, modeled after the capital planning and investment control process and covering two other performance measures, was not implemented as outlined, following input and significant changes outlined by the RD&T Planning Council comprising the Modal Administrators. An alternative recommendation for the development of a system of approaches to foster and support collaboration and coordination has been aggressively pursued, to include a concerted effort to identify means of collecting and aggregating research information at the project level from all modes and for all DOT-funded research into a searchable database, and the development of collaborative working groups of researchers with common research areas of focus. We are expanding our efforts to include researchers from DOT-funded universities and plan on inclusion of researchers from stakeholder organizations later this year.

In addition, the RD&T Planning Team, made up of the Directors or Associate Administrators of RD&T for each modal operating administration (OA), meets monthly and is currently collaboratively developing a DOT RD&T strategic plan outlining a comprehensive RD&T program to address the Department's Strategic Plan and outlined goals.

QUESTION: Please briefly discuss the work done to date, planned additional work, and timeline of the strategic plan for RITA.

ANSWER: RITA, based on input from RD&T Planning Team members, outlined a draft structure and content level for Planning Team member input to the cross-modal DOT RD&T Strategic Plan. A day-long Planning Team offsite finalized the structure, format and initial outline and reached concurrence on the level of content detail. There was agreement on a focus on addressing the DOT Strategic Goals. External stakeholder input has been received through the Federal Register. A draft, based on this input, is now under development. We hope to complete the plan by the end of the calendar year.

QUESTION: RITA proposes a 68 percent increase, compared to FY 2010 enacted, for this account. How, in terms of specific projects, does RITA propose to use the $364,000 increase?

ANSWER: The proposed budget increase will be used to further develop, populate and maintain a department-wide searchable RD&T database at the project level, focusing on RD&T products and on the people managing and conducting RD&T, facilitating new collaborations, and strengthening existing partnerships. It will also provide for the development of tools for measuring and evaluating RITA's coordination activities and development of a Departmental Technology Transfer program offering training and opportunities for DOT program managers and researchers to introduce products to users as well as production and distribution arenas. The funding will support utilization of enhanced communication and collaboration tools for broader distribution of research results to a broader audience.

QUESTION: Please include a table of University Transportation Center (UTC) grantees for the most recent two fiscal years available; this table should include recipient, city and state, and dollar amount. It should also designate if the UTC is designated in SAFETEA-LU. Also, please provide a map of the current UTCs.

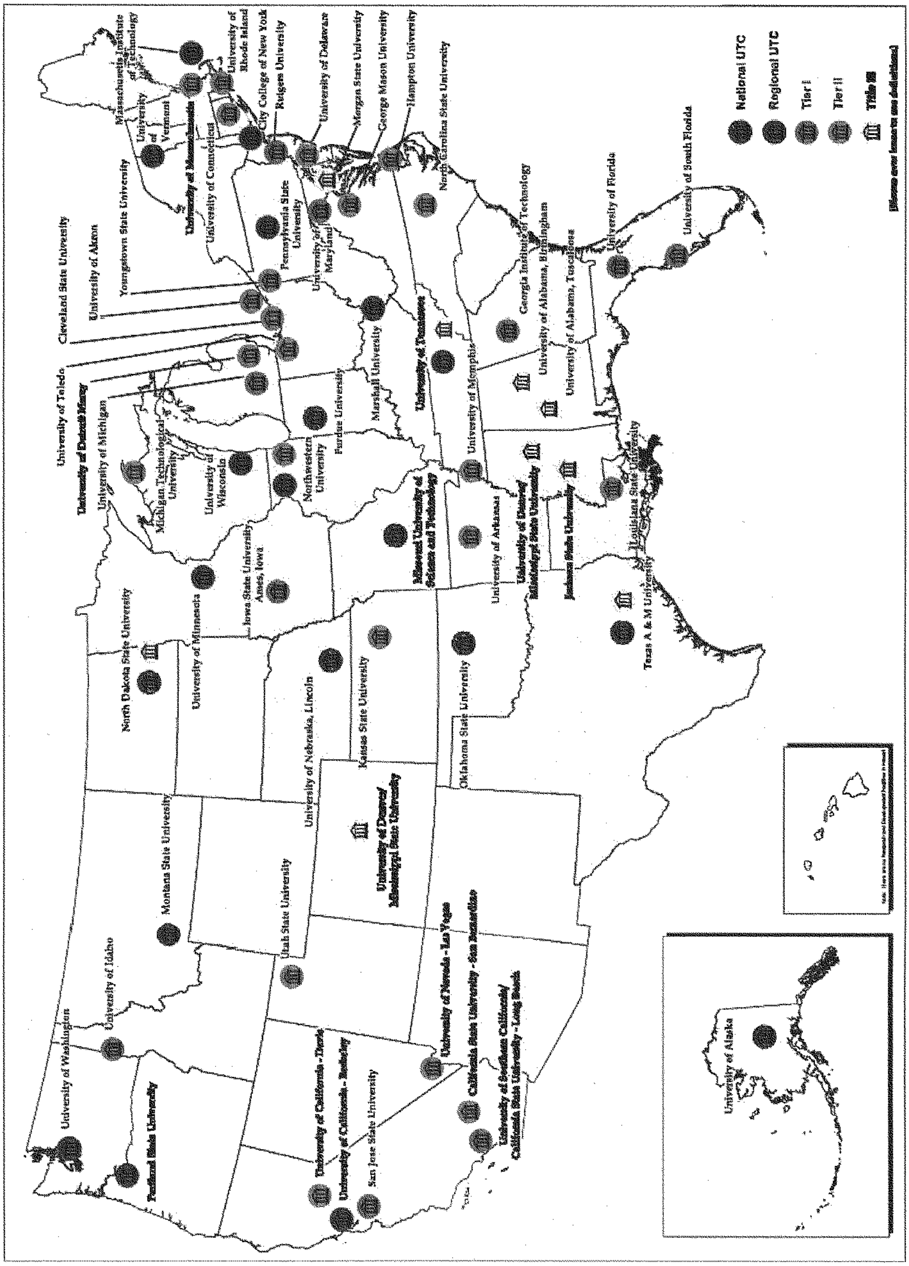
ANSWER: Attachment #1 is a spreadsheet containing the UTC information. Attachment #2 is a map of the current UTCs. Attachment #3 is a map of current UTCs and their collaborative partners (in the case of consortia).

FY 2009 UTC Grant Award Status (Attachment #1)

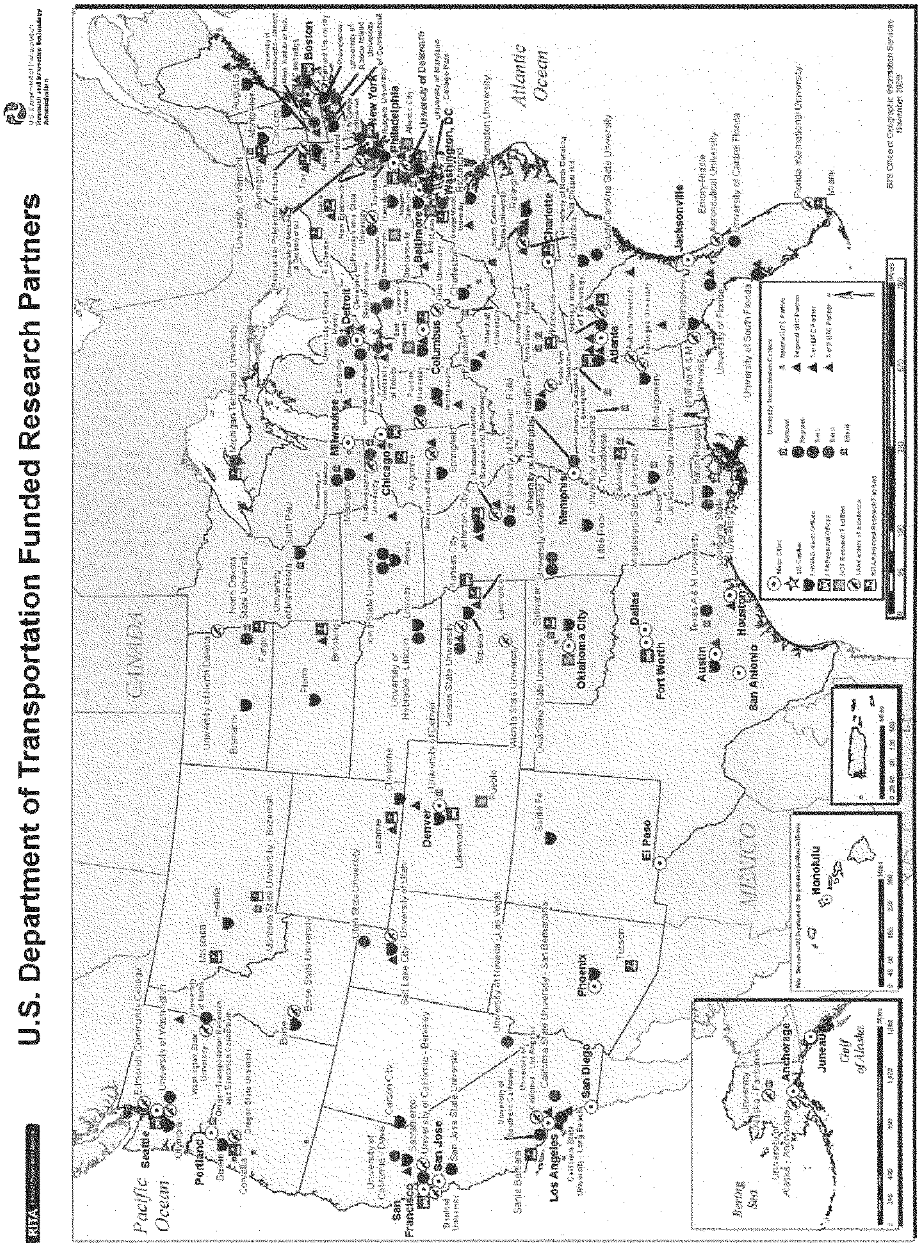
UTC Designation	Grantee	City	State	FY08 Award	FY09 Award
Designated	California State University- San Bernardino	San Bernardino	CA	$ 457,000	$ 463,400
Competitively Selected	City College of City University of New York	New York	NY	$1,828,000	$ 2,085,000
Designated	Cleveland State University	Cleveland	OH	$ 457,000	$ 463,400
Designated	George Mason University	Fairfax	VA	$ 457,000	$ 463,400
Competitively Selected	Georgia Institute of Technology	Atlanta	GA	$ 914,000	$ 926,700
Designated	Hampton University	Hampton	VA	$ 457,000	$ 463,400
Competitively Selected	Iowa State University	Ames	IA	$ 914,000	$ 926,700
Designated	Jackson State University	Jackson	MS	$ 650,000	$ 650,000
Designated	Kansas State University	Manhattan	KS	$ 457,000	$ 463,400
Designated	Louisiana State University	Baton Rouge	LA	$ 457,000	$ 463,400
Designated	Marshall University	Huntington	WV	$3,199,000	$ 3,243,400
Competitively Selected	Massachusetts Institute of Technology	Cambridge	MA	$1,828,000	$ 2,085,000
Designated	Michigan Technological University	Houghton	MI	$ 457,000	$ 463,400
Designated	Montana State University-Western Transportation Institute	Bozeman	MT	$3,199,000	$ 3,243,400
Designated	Morgan State University	Baltimore	MD	$1,000,000	$ 1,000,000
Designated	North Carolina State University	Raleigh	NC	$ 457,000	$ 463,400
Competitively Selected	North Dakota State University	Fargo	ND	$1,828,000	$ 2,085,000
Designated	Northwestern University	Evanston	IL	$3,199,000	$ 3,243,400
Designated	Northwestern University	Evanston	IL	$ 457,000	$ 463,400
Designated	Oklahoma Transportation Center (OK State University)	Stillwater	OK	$3,199,000	$ 3,243,400
Competitively Selected	Pennsylvania State University	University Park	PA	$1,828,000	$ 2,085,000
Designated	Portland State University	Portland	OR	$3,199,000	$ 3,243,400
Competitively Selected	Purdue University	West Lafayette	IN	$1,828,000	$ 2,085,000
Competitively Selected	Rutgers University	Piscataway	NJ	$ 914,000	$ 926,700
Competitively Selected	San Jose State University	San Jose	CA	$ 914,000	$ 926,700
Competitively Selected	Texas A & M University	College Station	TX	$1,828,000	$ 2,085,000
Designated	Texas A & M University-Texas Transportation Institute	College Station	TX	$1,500,000	$ 1,500,000
Designated	University of Akron	Akron	OH	$ 457,000	$ 463,400
Designated	University of Alabama	Tuscaloosa	AL	$ 650,000	$ 650,000
Designated	University of Alabama, Birmingham	Birmingham	AL	$ 550,000	$ 550,000
Designated	University of Alaska	Fairbanks	AK	$3,199,000	$ 3,243,400
Designated	University of Arkansas	Fayetteville	AR	$ 457,000	$ 463,400
Designated	University of California- Davis	Davis	CA	$ 457,000	$ 463,400
Competitively Selected	University of California-Berkeley	Berkeley	CA	$1,828,000	$ 2,085,000

Designated	University of Connecticut	Storrs	CT	$ 457,000	$ 463,400
Designated	University of Delaware- Newark	Newark	DE	$ 457,000	$ 463,400
Designated	University of Denver/Mississippi State University	Denver	CO	$ 650,000	$ 650,000
Designated	University of Detroit Mercy	Detroit	MI	$ 457,000	$ 463,400
Competitively Selected	University of Florida	Gainesville	FL	$ 914,000	$ 926,700
Competitively Selected	University of Idaho	Moscow	ID	$ 914,000	$ 926,700
Competitively Selected	University of Maryland College Park	College Park	MD	$ 914,000	$ 926,700
Designated	University of Mass- Amherst	Amherst	MA	$ 457,000	$ 463,400
Designated	University of Memphis	Memphis	TN	$ 457,000	$ 463,400
Competitively Selected	University of Michigan	Ann Arbor	MI	$ 914,000	$ 926,700
Designated	University of Minnesota	Minneapolis	MN	$3,199,000	$ 3,243,400
Designated	University of Missouri, Rolla	Rolla	MO	$3,199,000	$ 3,243,400
Competitively Selected	University of Nebraska, Lincoln	Lincoln	NE	$1,828,000	$ 2,085,000
Designated	University of Nevada- Las Vegas	Las Vegas	NV	$ 457,000	$ 463,400
Designated	University of Rhode Island	Kingston	RI	$ 457,000	$ 463,400
Competitively Selected	University of South Florida	Tampa	FL	$ 914,000	$ 926,700
Competitively Selected	University of Southern California/California State Long Beach	Los Angeles	CA	$ 914,000	$ 926,700
Competitively Selected	University of Tennessee	Knoxville	TN	$1,828,000	$ 2,085,000
Designated	University of Tennessee-Knoxville National Transportation Research Center	Knoxville	TN	$2,000,000	$ 2,000,000
Designated	University of Toledo	Toledo	OH	$ 457,000	$ 463,400
Designated	University of Vermont	Burlington	VT	$3,199,000	$ 3,243,400
Competitively Selected	University of Washington	Seattle	WA	$1,828,000	$ 2,085,000
Designated	University of Wisconsin	Madison	WI	$3,199,000	$ 3,243,400
Designated	Utah State University	Salt Lake City	UT	$ 457,000	$ 463,400
Designated	Youngstown State University	Youngstown	OH	$ 457,000	$ 463,400

Current University Transportation Centers (UTCs) (Attachment #2)


Massachusetts Institute of Technology
University of Rhode Island
City College of New York
Rutgers University
University of Delaware
Morgan State University
George Mason University
Hampton University
North Carolina State University
University of Vermont
University of Massachusetts
University of Connecticut
Youngstown State University
Pennsylvania State University
University of Maryland
Cleveland State University
University of Akron
University of Toledo
University of Detroit Mercy
University of Michigan
Michigan Technological University
University of Wisconsin
Northwestern University
Purdue University
Marshall University
University of Tennessee
University of Memphis
Georgia Institute of Technology
University of Alabama, Birmingham
University of Alabama, Tuscaloosa
University of Florida
University of South Florida
Louisiana State University
Jackson State University
University of Denver/ Mississippi State University
University of Arkansas
Missouri University of Science and Technology
Iowa State University, Ames, Iowa
University of Minnesota
North Dakota State University
Texas A & M University
University of Nebraska, Lincoln
Kansas State University
Oklahoma State University
University of Denver/ Mississippi State University
Montana State University
Utah State University
University of Idaho
University of Washington
Portland State University
University of California - Davis
University of California - Berkeley
San Jose State University
University of Nevada - Las Vegas
California State University - San Bernardino
University of Southern California/ California State University - Long Beach
University of Alaska
National UTC
Regional UTC
Tier I
Tier II
Title III

Current University Transportation Centers (UTCs) with collaborative partners (Attachment #3)



QUESTION: How many applications were received for competitive UTCs in the past two fiscal years?

ANSWER: None.

QUESTION: Ideally, research leads to practicably implementable solutions or improvements. Please discuss RITA's work in assessing this linkage.

ANSWER: Modal administrations pursue and demonstrate technology transfer in ways supportive of their mission. For example, regulatory/standards developing agencies such as PHMSA and FAA apply the results of their research in the issuance of regulations, codes and standards ensuring safe operation of stakeholder activities, such as the safe transmission of biofuels through pipelines or the development of requirements for inserting gases in centerwing fueltanks to prevent the recurrence of the devastating explosion of TWA 800. FAA, in its role as an operational agency, also applies research results to the operation of the air traffic system, currently developing the next generation air traffic system (NextGen). They have developed world-leading technologies in the past in the areas of tracking, accident prevention (e.g., wind shear detection and avoidance), etc. FHWA is actively pursuing technologies to enhance the safety, durability and sustainability of the highway infrastructure system, developing, for example, enhanced strength concrete (being examined by FRA and FTA for use as concrete ties) and non-destructive testing technologies. RITA has asked that modes review initiatives such as these in modal program reviews to facilitate leveraging of products and results and, with positions added in 2010, will develop a more systematic program to not only identify and track efforts but also to train researchers how best to pursue technology transfer and to provide forums to facilitate that transfer to practice.

In addition, each UTC, funded with DOT research dollars, is required to report its technology transfer activities in its annual report. Site visits to each UTC examine technology transfer, asking for evidence that UTC research results and technologies are being transferred to potential users. Examples of best practices in technology transfer are highlighted at the semi-annual meetings of all UTC directors (in January and June). The UTC Program also publishes a monthly "UTC Spotlight Newsletter" highlighting implementation of research results. The UTC Program is in the process of developing additional outcomes measures and indicators regarding implementation of research results.

QUESTION: A primary objective in the creation of RITA in 2004 was to coordinate the Department's research. In the approximately six years of the program, how has

RITA helped avoid duplication in research and improve the efficiency of the research process?

ANSWER: RITA has formed the RD&T Planning Team, comprised of the Directors or Associate Administrators of RD&T for each mode and the RD&T Planning Council, comprised of the modal Administrators. The Planning Team meets monthly to discuss research initiatives, conduct modal reviews, participate in forums and presentations of research initiatives and address coordination and departmental issues. The Planning Council is convened for decision making and policy pursuit. Over the past year, RITA has facilitated Planning Team member collaborative identification of research cluster areas. The Planning Team members agree that these cluster areas are important research areas for their mode or the Department and that represent the major areas of their research initiatives. At RITA's request, they have also identified individual researchers pursuing or managing research in those areas. RITA has formed working groups of these researchers by cluster area to facilitate discussion of current and planned research projects in these areas, leveraging of investments and resources, coordination and, if possible, collaboration on project pursuits. This effort is geared not only to foster communication but also to prevent duplication of research. RITA is also establishing SharePoint sites in these cluster areas for posting research results and research questions, conducting dialogues about projects and products, sharing data, etc. University Transportation Center researchers are being identified in these cluster areas and will be asked to join the SharePoint sites later this summer. AASHTO-sponsored researchers will be invited in the fall. In addition, annual program reviews identify research pursuits within individual modes, ensuring awareness of research focus areas to prevent duplication and enhance coordination. Tours of modal facilities and presentations further ensure communication and awareness. The peer review process, as applied by modal administrations in the formulation and review of research programs, and by UTCs, is a critical component that prevents duplication. In addition, the use of the National Transportation Library, and databases such as Research in Progress (RiP) and the Transportation Research Information Service (TRIS) by modal administrations and UTC researchers leads improved collaboration and prevention of duplication.

NATIONWIDE DIFFERENTIAL GLOBAL POSITIONING SYSTEM (NDGPS)

Note: NDGPS is operated by the U.S. Coast Guard, coordinating the Maritime Differential GPS, Army Corps of Engineers DGPS sites, and inland (DOT-funded) segment of NDGPS as a nationwide DGPS utility. These questions are answered for the DOT-funded inland NDGPS segment only, unless otherwise noted.

QUESTION: Over the years, the Administration has requested funding for the NDGPS program in a number of different agencies. Please provide a history of the funding for the NDGPS program for the last ten years, including how much funding was requested and in what agency, as well as how much was actually appropriated for the program and in what agency.

ANSWER:

History of NDGPS Program Funding

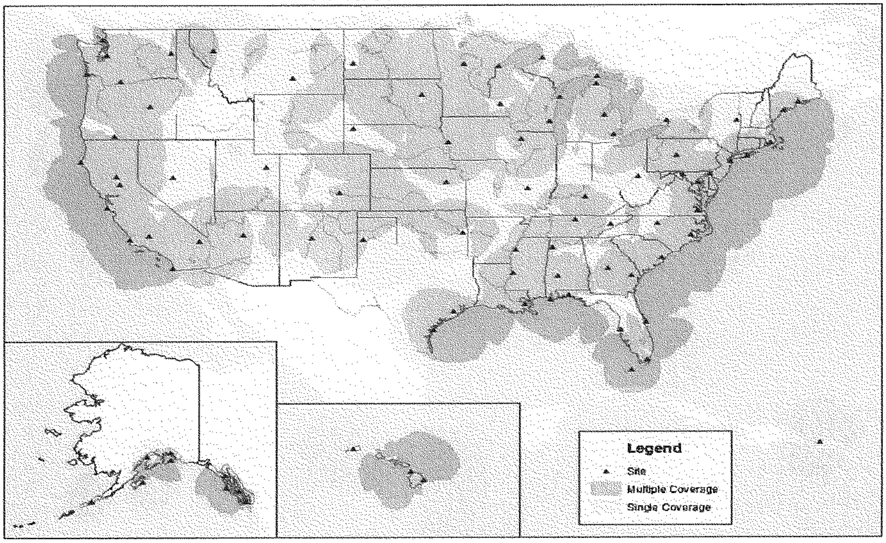
Fiscal Year	President's Budget Request ($M)	Requesting Agency	Actual Appropriation ($M)	Appropriated Agency
2000	10.0	FRA	5.0	FHWA
2001	5.0	FHWA	6.0	FHWA
2002	6.0	FRA	6.0	FAA
2003	6.0	FHWA	6.0	FHWA
2004	7.0	FRA	6.0	FAA
2005	7.0	FRA	6.0	FRA
2006	20.0	FRA	10.0	FRA
2007	0.0	FRA	0.0	N/A
2008	4.0	RITA	4.6	RITA
2009	4.6	RITA	5.0	RITA
2010	4.6	RITA	4.6	RITA

FAA = Federal Aviation Administration
FHWA = Federal Highway Administration
FRA = Federal Railroad Administration
USCG = U.S. Coast Guard

QUESTION: Please provide a map showing NDGPS coverage, both single and double coverage areas.

ANSWER: The map below shows single and double coverage of the combined NDGPS utility (Coast Guard + Army Corps of Engineers + DOT).

Nationwide DGPS



September 2009

QUESTION: Please briefly summarize NDGPS. Also, briefly discuss the organizations and their specific uses of NDGPS.

ANSWER: The Nationwide Differential Global Positioning System (NDGPS) is an enabling positioning and navigation technology for civil, commercial and scientific applications, through local broadcast of accurate GPS position corrections. Inland NDGPS is a robust, highly-reliable terrestrial expansion of the U.S. Coast Guard Maritime DGPS. With inland waterway sites (Army Corps of Engineers), combined NDGPS provides a national positioning, navigation and timing (PNT) utility on which there is significant public and private sector reliance for transportation, agricultural, environmental, natural resource management, surveying, weather forecasting and other applications. NDGPS service is provided free of direct user fees to meet the needs of federal agencies, state agencies, industries, universities and the general public. NDGPS provides support infrastructure for several USDOT research projects, and bears opportunities for future cross-modal transportation safety, security, efficiency and emergency response applications.

Organizations: Management and Operations

RITA's management of the NDGPS Program is guided by the interagency NDGPS Policy and Implementation Team. Diversity of membership is an indication of the multiple mission uses for NDGPS, including:

- Department of Transportation
  - Federal Highway Administration
  - Federal Railroad Administration
  - Research and Innovative Technology Administration (chair)
- Department of Agriculture
  - U.S. Forest Service
  - Natural Resources Conservation Service
- Department of Commerce
  - National Oceanic and Atmospheric Administration (NOAA)
    - National Geodetic Survey
    - Earth System Research Laboratory
  - National Weather Service
    - Space Weather Prediction Center
- Department of Defense
  - U.S. Army Corps of Engineers
- Department of Homeland Security (DHS)/U.S. Coast Guard
  - U.S. Coast Guard Headquarters
  - Navigation Center (NAVCEN)
  - Command and Control Engineering Center (C2CEN)
- Department of the Interior
  - Bureau of Land Management
  - National Park Service
  - U.S. Geological Survey

Organizations: Specific Uses

A selection of specific uses include:

- State DOTs and Highway Community – survey, construction, quality, asset management, roadside management, law enforcement, snowplow guidance
- Army Corps of Engineers – dredging, underwater surveying, aids to navigation
- Department of Agriculture/Department of Interior and Resource Management Agencies – one meter real-time positioning and navigation for lands and environmental management, fire management and safety
- NOAA – Continuously Operating Reference Stations (CORS), severe weather forecasting, space weather monitoring

- National Governors Association and local governments – state and local transportation, natural resources, environmental protection, agriculture, and parks agencies
- National Precision Farming Association – optimized plowing of crop rows, tailored applications of seeds, fertilizer, water, pesticides, precise leveling of fields
- Professional Land Surveyors – survey, mapping, Geographic Information Systems

More background on NDGPS may be found in the *2008 Federal Radionavigation Plan* and the March 2008 *NDGPS Assessment Final Report.*

QUESTION: Please discuss the new opportunities RITA foresees for NDGPS.

ANSWER: There are many possible opportunities for NDGPS use across surface transportation and other applications. Three currently-active opportunities include:

- NOAA/National Geodetic Survey is test-streaming Maritime NDGPS corrections to users over the Internet. This may result in improved civil sector customer service, and be an enabling technology for new location-based commercial services. DOT sites will be able to support this service once recapitalization is completed.

- DHS will use NDGPS and CORS as part of the GPS Interference Detection and Monitoring (IDM) capability. NDGPS could support critical infrastructure protection beyond transportation, including a national timing backup, and could support a Nationwide Emergency Communications System.

- DOT is continuing to pursue potential high accuracy (HA-NDGPS) upgrade (1 cm accuracy). The HA-NDGPS research program goal is to develop an inexpensive technique to achieve sub-decimeter active navigation (vs. static positioning) using existing infrastructure to the maximum extent possible. Results to date indicate that HA-NDGPS has the potential to enable Intelligent Transportation System safety technologies and other dynamic location-based applications in both urban and rural areas, and significantly improved services to existing users.

QUESTION: The budget for NDGPS indicates that the system as a whole has a severe maintenance backlog. Please expand on this. How does this system's technology and upkeep compare with that of the Coast Guard's Maritime NDGPS?

ANSWER: As noted in RITA's FY 2011 Congressional Budget Submission, the DOT NDGPS sites need to be upgraded to keep up with Coast Guard Maritime DGPS site configuration standards. The oldest NDGPS equipment contains multiple parts that are no longer available. NDGPS equipment beyond serviceable life is being maintained at increased expense by purchasing/stocking expensive replacement parts (new or refurbished) for the old equipment. Maintaining old site configurations also increases operations and maintenance (O&M) costs, and requires multiple operational protocols. If modernization is not initiated in FY 2011, there is a significant risk of loss of service due to equipment failure; the risk increases with time and increased deferred maintenance. Refresh is foundational to reducing O&M cost growth in outyears, as the Coast Guard has demonstrated that the modernized equipment allows 80% of trouble calls to be resolved remotely, rather than requiring a service call.

QUESTION: The Coast Guard recently finished modernization of their NDGPS system. Has RITA talked with the Coast Guard about this process; if not, does RITA intend to do this? What lessons learned can RITA take from that process and apply to this modernization?

ANSWER: The equipment requirements, cost estimates, and other information supporting the President's FY 2011 Budget request for NDGPS were formed in direct collaboration with the Coast Guard, which will conduct the modernization work. RITA has the technical and schedule advantages of the Coast Guard having completed their work, which has allowed RITA to propose a marginally reduced per tower cost to complete a near-identical work package.

QUESTION: The budget states that recapitalization can be accomplished with $2 million a year for two years. Will the $4 million total allow for complete modernization of NDGPS? Additionally, please estimate the savings from purchasing all equipment in the first year, rather than over two years.

ANSWER: The $4 million will allow the NDGPS sites to: remove obsolete equipment; come into compliance with the Coast Guard/Maritime DGPS site configuration and operational standards; and enable remote troubleshooting, essential to controlling future operations and maintenance (O&M) costs. The Coast Guard is beginning a DGPS antenna replacement program, which this funding does not cover.

It is expected that being able to procure all necessary equipment in one block purchase will save costs, but we cannot estimate the savings; depending upon equipment availability, savings could range from avoidance of inflationary price increases to larger discounts which vendors could choose to make available.

QUESTION: Were the funds available to purchase all equipment in the first year, what issues, if any, arise from doing the modernization in the smaller window? Would installation/upgrades still take two years?

ANSWER: The critical dependency for the two-year timeline for inland NDGPS modernization is the equipment procurement cycle, Coast Guard workload and availability of qualified Coast Guard personnel and contractors to perform the work. It will be difficult to accelerate the schedule due to these constraints.

QUESTION: The budget proposes a $1 million increase to operations and maintenance (O&M) for FY 2011. Assuming modernization occurs, will the total of $5.6 million for O&M allow RITA to keep NDGPS in a good state of repair, thus avoiding the current situation? Assuming modernization does not occur, will the total of $5.6 million for O&M be sufficient in this and future fiscal years?

ANSWER: A baseline of $5.6 million for O&M will allow RITA and the Coast Guard system operator to keep NDGPS in a state of good repair; however, this estimate assumes that the requested modernization is completed. Without modernization, a $5.6 million baseline for O&M will be insufficient, as repairing and troubleshooting the aged and increasingly unavailable equipment will consume an ever-increasing percentage of available funding, undermining routine system O&M.

QUESTION: Briefly discuss O&M. What does it entail (e.g. site visits, testing)? What would an additional $1 million annually in O&M provide?

ANSWER: Routine O&M to maintain 98.5% system availability includes:

- Engineering, operations, technician and watchstander staffing at U.S. Coast Guard NAVCEN and C2CEN; and support from the Coast Guard Civil Engineering Units, and Shore Infrastructure Logistics Center;
- Trouble call response and resolution;
- Site visits for routine maintenance, equipment and tower safety inspections;
- Spares and equipment refurbishment costs;
- Utilities and lease costs (for those sites on leased property).

The requested additional $1 million annually will enable on-site O&M for the 29 inland NDGPS towers to be conducted on recommended schedules, rather than continuing to pursue a deferred maintenance approach; allow the DOT sites to update equipment on schedule; and enable the Coast Guard to absorb inflationary operational increases for labor, leases, utilities, and spares while improving system reliability and availability. As noted above, the request for $5.6 million assumes that modernization occurs.

QUESTION: RITA estimates the cost of repairs/replacement of the "top five" priority towers to be $800,000. Is this amount included in the total $4 million recapitalization number, or is it additional?

ANSWER: Yes, this amount is included in the total $4 million recapitalization estimate.

QUESTION: Briefly discuss the costs and associated requirements needed to get the contiguous United States to 100 percent CONUS coverage.

ANSWER: Seven (7) sites need to be built to complete 100% NDGPS CONUS single coverage. Because site preparations, environmental assessments, and other pre-construction work have been completed for these seven sites, construction may be completed for approximately $4.0 million, taking into account equipment and tower elements previously purchased. Construction at each site will take five to eight months depending upon the site, and includes utility installation, tower and equipment installation, and system test and verification.

The seven sites remaining for 100% single coverage have been prioritized by the interagency team:

1. Bliss, ID
2. Marshall, TX
3. Carlsbad, NM
4. Tucson, AZ
5. Big Lake, TX
6. Sage Junction, ID
7. Patten, ME

These priorities could shift if there are difficulties in obtaining local permits, or unexpected construction issues. The President's FY 2011 budget requests no funding for completing these tower locations.

QUESTION: Briefly discuss the costs and associated requirements needed to get the contiguous United States to 100 percent CONUS dual coverage.

ANSWER: Beyond the seven sites required to complete single coverage, eighteen (18) sites will be required to provide NDGPS CONUS dual coverage. Almost no site preparations have been completed for these 18 sites; current estimates are that each site will cost a minimum of approximately $1.9 million from "start" to "on air," for a minimum development cost of $34 million. Requirements to develop a broadcast site include: site location, survey and assessment; environmental assessment; site design; property use agreements; and actual construction and pre-broadcast testing. Minimum combined time for the pre-construction and construction phases is 18 months; three years is more common.

The 18 sites have not been prioritized. The President's FY 2011 budget requests no funding for planning or developing these locations.

QUESTION: Please discuss any plans or thoughts RITA may have regarding areas outside of the contiguous United States and CONUS coverage.

ANSWER:

Alaska –A conceptual map of NDGPS coverage has been prepared for Alaska. There have been discussions with State of Alaska officials concerning providing NDGPS service in the Alaska Transportation Corridor in support of the operations of the Alaska Railroad and highway/roadway operations and maintenance; however, no funding has been identified, and no planning begun. A minimum of three (3) NDGPS sites would be required to initiate this service along the Corridor.

Puerto Rico – There is joint DOT/Coast Guard interest in installing a second NDGPS site on the eastern end of Puerto Rico, to support both navigation services and hurricane response and recovery efforts in the Caribbean. Site identification has been investigated, but no funding has been identified for developing this location.

QUESTION: RITA has a stated goal of maintaining 98.5 percent system availability. Please discuss NDGPS's performance against this goal over the past five years.

ANSWER: The combined NDGPS service has had individual months where system availability dropped below standard, due to individual site problems or significant weather events; however, system availability averages across the five-year period exceed standard. The ability of the inland NDGPS segment to consistently meet the 98.5% availability standard, despite using aged equipment, is a testimony to the outstanding technical and operational support provided to DOT by the Coast Guard.

POSITIONING, NAVIGATION, AND TIMING (PNT)

QUESTION: RITA requests an increase of 150 percent for PNT, $400,000 to $1 million. Please provide a line-by-line breakout comparing how RITA spent the $400,000 in FY 2010 to how RITA would spend the requested $1 million in FY 2011.

ANSWER:

Line Item	**FY 2010**	**FY 2011**
National PNT Architecture	$225K	$604K
PNT and Spectrum Policy Coordination	$40K	$100K
Radionavigation Planning	$75K	$100K
Civil PNT Requirements	$50K	$150K
Civil GPS Service Interface Committee	$10K	$46K

QUESTION: Please briefly explain how RITA arrived at the cost estimates for the different areas of PNT.

ANSWER:

Line Item	**FY 2011**	
National PNT Architecture	$604K	Cost covers 2 Volpe FTEs plus $4K of travel. Purpose: In conjunction with DoD and DHS, conduct research and development efforts identified in the National PNT Architecture Implementation Plan to address PNT capability gaps (predominantly environments where GPS does not work well) from a national perspective.
PNT and Spectrum Policy Coordination	$100K	Cost covers 0.3 Volpe FTEs. Purpose: Provide support for the Deputy Secretary of Transportation and Under Secretary of Transportation for Policy with preparation of

		materials and briefings for their participation as the co-chairs of the Space-Based PNT Executive Committee and Executive Steering Group, respectively. Conduct meetings of the DOT Extended Pos/Nav Working Group (all civil agencies) and coordinate civil position on PNT issues. Develop the 2011 DOT Biennial Spectrum Plan.
Radionavigation Planning	$100K	Cost covers 0.3 Volpe FTEs. Purpose: Represent DOT and the civil community in Federal radionavigation planning activities in development of the Federal Radionavigation Plan.
Civil PNT Requirements	$150K	Cost covers 0.5 Volpe FTEs plus $10K for travel. Purpose: Perform outreach to stakeholders (internal and external to the government) for identification of civil PNT requirements. These requirements are documented in a Civil PNT Requirements Document which serve as the foundation for the National PNT Architecture effort and allows program assessments to be performed to determine if the capabilities of the National PNT Architecture meet the needs of the civil community.
Civil GPS Service Interface Committee	$46K	Cost covers 0.15 Volpe FTEs plus $6K for travel. Purpose: Conduct meetings of the Civil Global Positioning System Service Interface Committee (CGSIC) and its subcommittees to promote public awareness of U.S. Government GPS plans and programs. RITA chairs the CGSIC and it is co-chaired by United States Coast Guard.

QUESTION: What would be the results to PNT if Congress were to straight-line funding for the FY 2010 enacted amount of $400,000?

ANSWER: The PNT responsibilities within RITA are currently carried out by Volpe Center personnel; RITA's Volpe Center is a fee-for-service entity. $400K provides for 1.3 FTEs plus $10K for travel expenses. This level of funding will continue to be inadequate for RITA, on behalf of DOT, to meet its "lead civil agency" responsibilities as called for in NSPD-39.

BUREAU OF TRANSPORTATION STATISTICS (BTS)

QUESTION: Please provide a table showing funding for BTS for each of the last ten fiscal years.

ANSWER:

Ten-Year BTS Funding History

(in thousands of dollars)			
FISCAL YEAR	**REQUESTED**	**ENACTED**	
2001	31,000	30,932	
2002	43,760	30,808	
2003	35,806	30,499	
2004	35,239	30,235	
2005	32,199	30,015	
2006	32,869	26,730	
2007	27,480	27,562	
2008	27,000	27,000	
2009	27,000	27,000	
2010	28,000	28,000	1/
Note:			
1/Only $27 million of contract authority is available.			

QUESTION: How much did BTS carry over in obligation authority in the last 5 fiscal years (by fiscal year)?

ANSWER:

Carryover of Obligation Authority

(in thousands of dollars)	
FISCAL YEAR	**ENDING BALANCE CARRIED OVER**
2005	3,239
2006	2,381
2007	6,420
2008	649
2009	6,416

QUESTION: RITA requests a $2 million increase in the obligation limitation for BTS in the Freight Statistics Program. This increase is attributable to the 2012 Commodity Flow Survey (CFS). The 2007 CFS cost $25 million to produce. How much, in addition to the $2 million already requested, does RITA anticipate the 2012 CFS will cost?

ANSWER: In addition to the $2 million already requested, RITA anticipates that the 2012 Commodity Flow Survey, conducted by the Census Bureau, will require up to an additional $28 million, for an estimated total of $30 million over the five-year project cycle. Please see table below for proposed annual distribution of projected CFS 2012 budget estimates:

Table: Projected Annual 2012 Commodity Flow Survey Budget Estimates

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	Total
BTS contribution to Census	$2M	$4M	$8M	$5M	$3.2M	$22.2M
Census Bureau contribution	.5M	1.5M	2M	1.3M	.5M	5.8M
Other BTS contract-related costs	.25M	.5M	.5M	.5M	.25M	2M
Total						**$30M**

Although the requested obligation limitation increase is $2 million, there is insufficient contract authority to provide for this enhancement. The BTS account is limited to the $27 million provided in the SAFETEA-LU Extension Act.

FUNDING STATUS

QUESTION: Please provide a chart showing the status of all funds enacted since 2008.

ANSWER:

Funds Enacted Since 2008

(in thousands of dollars)		
	R&D	**BTS**
FY 2008 Enacted	12,000	27,000
FY 2008 Obligations	13,073	20,175
FY 2009 Enacted	12,900	27,000
FY 2009 Obligations	12,321	28,061
FY 2010 Enacted	13,007	27,000
FY 2010 Obligations (as of 3/31/10)	2,426	14,450

Office of the Inspector General – Department of Housing and Urban Development (HUD)
Questions for the Record

Funding

1. **Please provide a ten-year funding history for OIG.**

   See Attachment #1.

   For FY 2010, due to the length of the continuing resolution and the early submission of our budget proposal to OMB, we received additional direct funds for on-going FHA anti-fraud related activities when Congress acted in the omnibus appropriations bill that put our direct appropriations for the year at $125 million but is not reflected in our budget submission. Therefore, if we were to receive the $123 million as requested in the budget submission, it would significantly reduce our funding.

Office of the Inspector General - Department of Housing and Urban Development (HUD)

1. Please Provide a ten-year funding history

OIG Budget Enacted Levels	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Direct Appropriations	$55,847	$58,541	$66,555	$74,341	$77,000	$79,310	$81,180	$104,940	$112,000	$120,000	$120,000
Direct Appropriations: FHA Funding											$5,000
Transfer from FHA *(Reimbursable fund)*	$22,343	$22,294	$22,343	$23,343	$23,858	$23,858	$23,760				
Transfer from PIH	$10,000	$9,979	$5,000								
Consolidated Fee Account	$537	$537	$537								
Emergency Response Fund (P.L. 107-117) *(Post 9-11)*			$1,000	$161	$104	$71					
Audit of Section 514 Technical Assistance Grants (P.L. 107-117)			$100								
Hurricane Recovery Supplemental (P.L 109-234)							$9,000*	$8,089*	$3,647*	$148*	$148*
Katrina Recovery Supplemental (P.L 110-28)								$7,000*	$7,000*	$6,228*	$6,228*
American Recovery & Reinvestment Act (P.L. 111-5)										$14,916**	$14,916**
Rescission				($482)	($454)						

Notes:

1 Amounts in Thousands

2 in FY 2007 the FHA funding amount was transferred into appropriations ($24 million)

3. PIH Fund Transfer from PIH for Operation Safe Home - Drug elimination grant.

4 Consolidated Fee Account. Reimbursement from United States Postal Service (USPS).

5. The FY 2010 appropriations provided OIG with an additional $5 million to use for increase audits, investigations, and personnel costs related to the Office's Federal Housing Administration and mortgage-fraud oversight activities

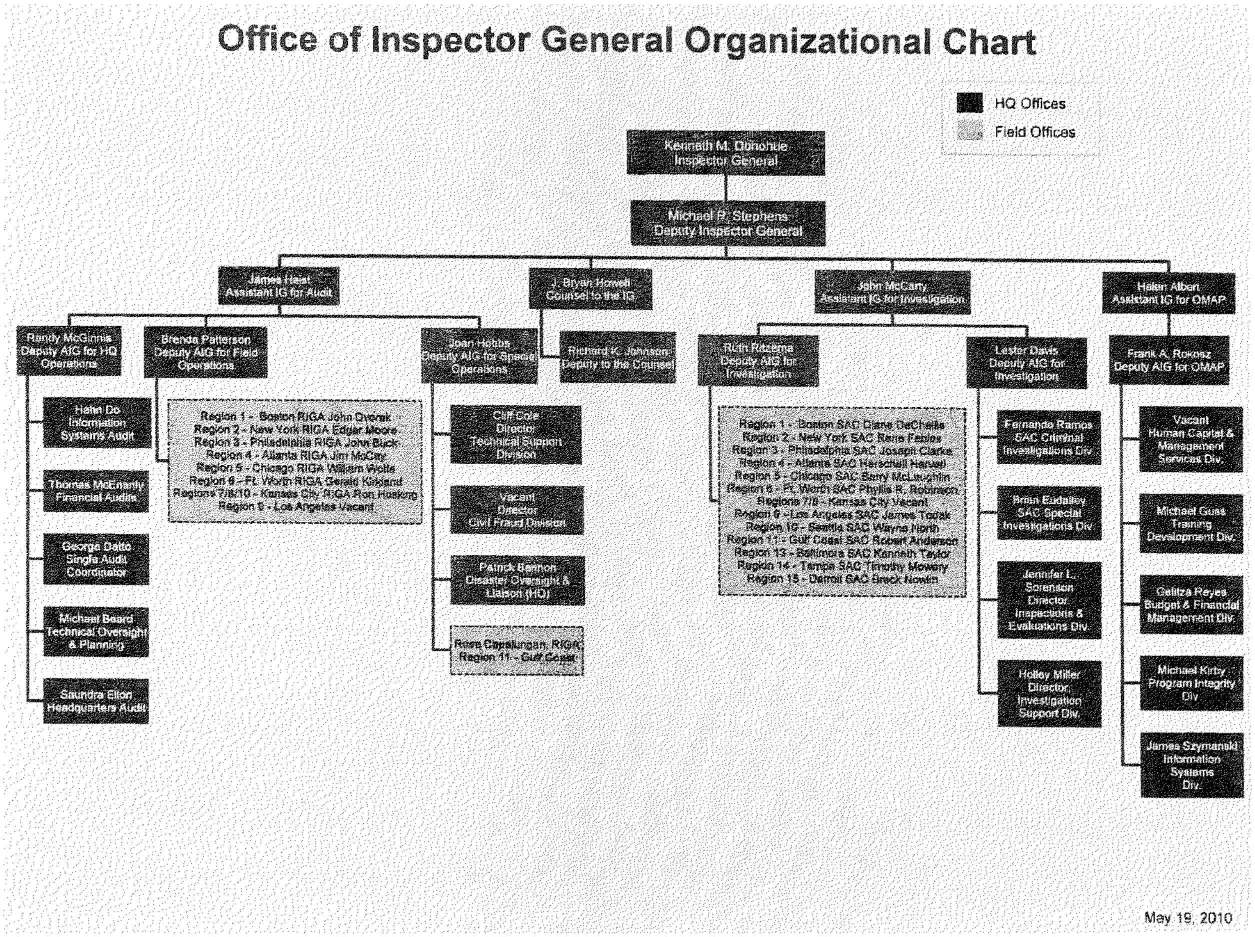
* No year appropriations

** Multi-year appropriations, will be expensed by FY 2013

Staffing

2. Please provide an organizational chart for OIG.

See Attachment #2.



Office of Inspector General Organizational Chart

Kenneth M. Donohue
Inspector General

Michael P. Stephens
Deputy Inspector General

James Heist
Assistant IG for Audit

Randy McGinnis
Deputy AIG for HQ Operations

Hahn Do
Information Systems Audit

Thomas McEnanly
Financial Audits

George Datto
Single Audit Coordinator

Michael Beard
Technical Oversight & Planning

Saundra Elion
Headquarters Audit

Brenda Patterson
Deputy AIG for Field Operations

Region 1 - Boston RIGA John Dvorak
Region 2 - New York RIGA Edgar Moore
Region 3 - Philadelphia RIGA John Buck
Region 4 - Atlanta RIGA Jim McCay
Region 5 - Chicago RIGA William Wolfe
Region 6 - Ft. Worth RIGA Gerald Kirkland
Regions 7/8/10 - Kansas City RIGA Ron Hosking
Region 9 - Los Angeles Vacant

Joan Hobbs
Deputy AIG for Special Operations

Cliff Cole
Director
Technical Support Division

Vacant
Director
Civil Fraud Division

Patrick Bannon
Disaster Oversight & Liaison (HQ)

Rose Capalungan, RIGA
Region 11 - Gulf Coast

J. Bryan Howell
Counsel to the IG

Richard K. Johnson
Deputy to the Counsel

John McCarty
Assistant IG for Investigation

Ruth Ritzema
Deputy AIG for Investigation

Region 1 - Boston SAC Diane DeChellis
Region 2 - New York SAC Rene Febles
Region 3 - Philadelphia SAC Joseph Clarke
Region 4 - Atlanta SAC Herschell Harvell
Region 5 - Chicago SAC Barry McLaughlin
Region 6 - Ft. Worth SAC Phyllis R. Robinson
Regions 7/8 - Kansas City Vacant
Region 9 - Los Angeles SAC James Todak
Region 10 - Seattle SAC Wayne North
Region 11 - Gulf Coast SAC Robert Anderson
Region 13 - Baltimore SAC Kenneth Taylor
Region 14 - Tampa SAC Timothy Mowery
Region 15 - Detroit SAC Breck Nowlin

Lester Davis
Deputy AIG for Investigation

Fernando Ramos
SAC Criminal Investigations Div

Brian Eudailey
SAC Special Investigations Div

Jennifer L. Sorenson
Director
Inspections & Evaluations Div.

Holley Miller
Director,
Investigation Support Div.

Helen Albert
Assistant IG for OMAP

Frank A. Rokosz
Deputy AIG for OMAP

Vacant
Human Capital & Management Services Div.

Michael Guss
Training Development Div.

Galiliza Reyes
Budget & Financial Management Div.

Michael Kirby
Program Integrity Div

James Szymanski
Information Systems Div.

May 19, 2010

3. **Please provide a listing (by title, office, grade and salary) of each position in OIG and indicate which positions are vacant, if any. Please indicate any political appointments. Please indicate the physical location of each position.**

   See Attachment #1.

   There are no political appointments in OIG staff so as to remain independent. The IG is appointed by the President but is, according to statutory requirements, to be selected without regard to political affiliation and based on previous investigative or auditing experience and is to remain in office from administration to administration.

Office of the Inspector General - Department of Housing and Urban Development (HUD)

3. Please provide a listing (by title, office, grade, and salary) of each position in OIG and indicate which positions are vacant. Please indicate any political appointments. Please also indicate the physical location of each position

PROGRAM OFFICE	VACANT POSITIONS	REGION	REGION DESCRIPTION	OFFICIAL TITLE	PAY PLAN	SERIES	GRADE	STEP	SALARY	DUTY CITY	DUTY ST	Political Appointments
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ATTORNEY-ADVISER	GS	0905	14	2	108,717.00	WASHINGTON	DC	
COUNSEL	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ATTORNEY ADVISER	GS	905	14	1	105,211.00	WASHINGTON	DC	
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CLERK (OA)	GS	0303	7	1	24,865.00	WASHINGTON	DC	
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	COUNSEL TO THE INSPECTOR GENERAL	ES	0905	0	0	145,157.00	WASHINGTON	DC	
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	FREEDOM OF INFORMATION SPECIALIST	GS	0301	12	2	77,368.00	WASHINGTON	DC	
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT AND PROGRAM ANALYST	GS	0343	13	7	106,839.00	WASHINGTON	DC	
COUNSEL	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PARALEGAL SPECIALIST	GS	950	9	1	51,630.00	WASHINGTON	DC	
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SENIOR ATTORNEY-ADVISER	GS	0905	15	2	127,883.00	WASHINGTON	DC	
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SENIOR ATTORNEY ADVISER	GS	0905	15	8	152,635.00	WASHINGTON	DC	
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	STAFF ASSISTANT	GS	0301	9	7	61,952.00	WASHINGTON	DC	
COUNSEL		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPVY ATTORNEY-ADVISOR	GS	0905	15	7	148,510.00	WASHINGTON	DC	
FRONT OFFICE		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	9	59,207.00	WASHINGTON	DC	
FRONT OFFICE		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	DEPUTY INSPECTOR GENERAL	ES	0301	0	0	179,700.00	WASHINGTON	DC	
FRONT OFFICE		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	EXECUTIVE ASSISTANT	GS	0301	15	10	155,500.00	WASHINGTON	DC	
FRONT OFFICE		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	INSPECTOR GENERAL	IG	0301	0	0	170,259.00	WASHINGTON	DC	Political appointee
FRONT OFFICE		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	STAFF ASSISTANT (TYPING)	GS	0301	12	9	94,837.00	WASHINGTON	DC	
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	5	85,251.00	BOSTON	MA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	7	86,280.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	8	92,996.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	6	84,854.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	NEW ORLEANS FIELD OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	4	75,689.00	NEW ORLEANS	LA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	2	71,102.00	KANSAS CITY	KS	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	1	76,644.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION X OIG	SEATTLE REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	6	85,656.00	SEATTLE	WA	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE OFFICER	GS	0341	13	6	103,872.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE OFFICER	GS	0341	14	4	115,731.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	APPRAISER	GS	1171	13	7	98,187.00	JACKSON	MS	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	APPRAISER	GS	1171	13	9	115,441.00	LOS ANGELES	CA	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	APPRAISER	GS	1171	13	10	116,562.00	CHICAGO	IL	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ASST INSPECTOR GENERAL FOR AUDIT	ES	0511	0	0	179,700.00	WASHINGTON	DC	
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	AUDITOR	GS	0511	13	6	104,357.00	BOSTON	MA	
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	AUDITOR	GS	0511	13	10	116,282.00	BOSTON	MA	
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	AUDITOR	GS	0511	13	6	104,357.00	BOSTON	MA	
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	AUDITOR	GS	0511	13	6	104,357.00	BOSTON	MA	
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	AUDITOR	GS	0511	13	10	116,282.00	BOSTON	MA	
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	AUDITOR	GS	0511	12	8	92,773.00	BOSTON	MA	
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	AUDITOR	GS	0511	13	6	107,634.00	NEW YORK	NY	
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	AUDITOR	GS	0511	13	4	101,484.00	NEW YORK	NY	
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	AUDITOR	GS	0511	13	1	92,259.00	NEW YORK	NY	
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	AUDITOR	GS	0511	12	4	85,343.00	NEW YORK	NY	
OFFICE OF AUDIT	VACANT	REGION II	NEW YORK REGIONAL OFFICE	AUDITOR	GS	511	11	1	62,467.00	NEW YORK	NY	
OFFICE OF AUDIT		REGION II	ALBANY FIELD OFFICE	AUDITOR	GS	0511	13	10	106,369.00	ALBANY	NY	
OFFICE OF AUDIT		REGION II	ALBANY FIELD OFFICE	AUDITOR	GS	0511	13	8	100,914.00	ALBANY	NY	
OFFICE OF AUDIT		REGION II	ALBANY FIELD OFFICE	AUDITOR	GS	0511	13	7	98,187.00	ALBANY	NY	
OFFICE OF AUDIT		REGION II	BUFFALO FIELD OFFICE	AUDITOR	GS	0511	13	7	100,612.00	BUFFALO	NY	
OFFICE OF AUDIT		REGION II	BUFFALO FIELD OFFICE	AUDITOR	GS	0511	13	4	92,228.00	BUFFALO	NY	
OFFICE OF AUDIT		REGION II	NEWARK FIELD OFFICE	AUDITOR	GS	0511	13	1	92,259.00	NEWARK	NJ	
OFFICE OF AUDIT		REGION II	NEWARK FIELD OFFICE	AUDITOR	GS	0511	13	1	92,259.00	NEWARK	NJ	
OFFICE OF AUDIT		REGION II	NEWARK FIELD OFFICE	AUDITOR	GS	0511	13	5	104,559.00	NEWARK	NJ	
OFFICE OF AUDIT		REGION II	NEWARK FIELD OFFICE	AUDITOR	GS	0511	13	4	101,484.00	NEWARK	NJ	
OFFICE OF AUDIT		REGION II	NEWARK FIELD OFFICE	AUDITOR	GS	0511	13	4	101,484.00	NEWARK	NJ	
OFFICE OF AUDIT		REGION II	NEWARK FIELD OFFICE	AUDITOR	GS	0511	13	1	92,259.00	NEWARK	NJ	
OFFICE OF AUDIT		REGION II	NEWARK FIELD OFFICE	AUDITOR	GS	0511	13	6	107,634.00	NEWARK	NJ	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	AUDITOR	GS	0511	9	1	50,620.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	AUDITOR	GS	0511	13	5	98,930.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	AUDITOR	GS	0511	13	3	93,111.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	AUDITOR	GS	0511	13	7	104,749.00	PHILADELPHIA	PA	

OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	AUDITOR	GS	0511	13	8	107,659.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	AUDITOR	GS	0511	13	4	96,020.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	AUDITOR	GS	0511	11	10	79,615.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	AUDITOR	GS	0511	13	4	96,020.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION III OIG	BALTIMORE FIELD OFFICE	AUDITOR	GS	0511	13	4	97,936.00	BALTIMORE	MD	
OFFICE OF AUDIT		REGION III OIG	BALTIMORE FIELD OFFICE	AUDITOR	GS	0511	13	2	92,001.00	BALTIMORE	MD	
OFFICE OF AUDIT		REGION III OIG	BALTIMORE FIELD OFFICE	AUDITOR	GS	0511	11	1	62,467.00	BALTIMORE	MD	
OFFICE OF AUDIT		REGION III OIG	PITTSBURGH FIELD OFFICE	AUDITOR	GS	0511	13	4	91,747.00	PITTSBURGH	PA	
OFFICE OF AUDIT		REGION III OIG	PITTSBURGH FIELD OFFICE	AUDITOR	GS	0511	13	8	102,868.00	PITTSBURGH	PA	
OFFICE OF AUDIT		REGION III OIG	PITTSBURGH FIELD OFFICE	AUDITOR	GS	0511	7	1	39,541.00	PITTSBURGH	PA	
OFFICE OF AUDIT		REGION III OIG	RICHMOND FIELD OFFICE	AUDITOR	GS	0511	13	7	100,174.00	RICHMOND	VA	
OFFICE OF AUDIT		REGION III OIG	RICHMOND FIELD OFFICE	AUDITOR	GS	0511	13	7	100,174.00	RICHMOND	VA	
OFFICE OF AUDIT		REGION III OIG	RICHMOND FIELD OFFICE	AUDITOR	GS	0511	13	8	102,956.00	RICHMOND	VA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	9	1	49,581.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	12	2	74,297.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	13	7	102,599.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	13	10	111,148.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	13	7	102,599.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	9	1	49,581.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	13	2	88,350.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	11	1	59,987.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	AUDITOR	GS	0511	11	1	59,987.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	MIAMI FIELD OFFICE	AUDITOR	GS	0511	13	4	95,232.00	MIAMI	FL	
OFFICE OF AUDIT		REGION IV	MIAMI FIELD OFFICE	AUDITOR	GS	0511	13	6	101,003.00	MIAMI	FL	
OFFICE OF AUDIT		REGION IV	MIAMI FIELD OFFICE	AUDITOR	GS	0511	13	3	92,346.00	MIAMI	FL	
OFFICE OF AUDIT		REGION IV	MIAMI FIELD OFFICE	AUDITOR	GS	0511	7	1	41,043.00	MIAMI	FL	
OFFICE OF AUDIT		REGION IV	MIAMI FIELD OFFICE	AUDITOR	GS	0511	12	1	72,805.00	MIAMI	FL	
OFFICE OF AUDIT		REGION IV	GREENSBORO FIELD OFFICE	AUDITOR	GS	0511	13	4	90,005.00	GREENSBORO	NC	
OFFICE OF AUDIT		REGION IV	GREENSBORO FIELD OFFICE	AUDITOR	GS	0511	13	4	90,005.00	GREENSBORO	NC	
OFFICE OF AUDIT		REGION IV	GREENSBORO FIELD OFFICE	AUDITOR	GS	0511	9	1	47,448.00	GREENSBORO	NC	
OFFICE OF AUDIT		REGION IV	JACKSON FIELD OFFICE	AUDITOR	GS	0511	11	1	57,408.00	JACKSON	MS	
OFFICE OF AUDIT		REGION IV	JACKSON FIELD OFFICE	AUDITOR	GS	0511	9	1	47,448.00	JACKSON	MS	
OFFICE OF AUDIT		REGION IV	JACKSON FIELD OFFICE	AUDITOR	GS	0511	13	4	90,005.00	JACKSON	MS	
OFFICE OF AUDIT		REGION IV	JACKSON FIELD OFFICE	AUDITOR	GS	0511	13	3	87,278.00	JACKSON	MS	
OFFICE OF AUDIT		REGION IV	JACKSONVILLE FIELD OFFICE	AUDITOR	GS	0511	13	8	100,914.00	JACKSONVILLE	FL	
OFFICE OF AUDIT		REGION IV	JACKSONVILLE FIELD OFFICE	AUDITOR	GS	0511	13	8	100,914.00	JACKSONVILLE	FL	
OFFICE OF AUDIT		REGION IV	JACKSONVILLE FIELD OFFICE	AUDITOR	GS	0511	11	1	57,408.00	JACKSONVILLE	FL	
OFFICE OF AUDIT		REGION IV	JACKSONVILLE FIELD OFFICE	AUDITOR	GS	0511	13	5	92,732.00	JACKSONVILLE	FL	
OFFICE OF AUDIT		REGION IV	KNOXVILLE FIELD OFFICE	AUDITOR	GS	0511	13	7	98,187.00	KNOXVILLE	TN	
OFFICE OF AUDIT		REGION IV	KNOXVILLE FIELD OFFICE	AUDITOR	GS	0511	13	8	100,914.00	KNOXVILLE	TN	
OFFICE OF AUDIT		REGION IV	KNOXVILLE FIELD OFFICE	AUDITOR	GS	0511	13	1	81,823.00	KNOXVILLE	TN	
OFFICE OF AUDIT		REGION IV	SAN JUAN FIELD OFFICE	AUDITOR	GS	0511	13	5	85,064.00	SAN JUAN	PR	
OFFICE OF AUDIT		REGION IV	SAN JUAN FIELD OFFICE	AUDITOR	GS	0511	13	4	82,562.00	SAN JUAN	PR	
OFFICE OF AUDIT		REGION IV	SAN JUAN FIELD OFFICE	AUDITOR	GS	0511	13	6	87,566.00	SAN JUAN	PR	
OFFICE OF AUDIT		REGION IV	SAN JUAN FIELD OFFICE	AUDITOR	GS	0511	13	3	80,061.00	SAN JUAN	PR	
OFFICE OF AUDIT		REGION IV	SAN JUAN FIELD OFFICE	AUDITOR	GS	0511	13	7	90,068.00	SAN JUAN	PR	
OFFICE OF AUDIT		REGION IV	SAN JUAN FIELD OFFICE	AUDITOR	GS	0511	13	4	82,562.00	SAN JUAN	PR	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	7	107,596.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	11	6	73,392.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	12	1	75,403.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	12	1	75,403.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	2	92,653.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	2	92,653.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	4	98,630.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	11	1	62,909.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	11	1	62,909.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	2	97,653.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	12	2	77,916.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	1	89,664.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	12	1	75,403.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	8	110,585.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	12	1	75,403.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	7	92,653.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	10	116,562.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	AUDITOR	GS	0511	13	8	110,585.00	CHICAGO	IL	

OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	AUDITOR	GS	0511	13	5	95,169.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	AUDITOR	GS	0511	13	7	100,767.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	AUDITOR	GS	0511	7	1	39,810.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	AUDITOR	GS	0511	12	1	70,617.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	AUDITOR	GS	0511	13	8	103,566.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	AUDITOR	GS	0511	11	1	58,916.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	AUDITOR	GS	0511	13	4	92,370.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	AUDITOR	GS	0511	13	2	86,772.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	AUDITOR	GS	0511	12	10	97,231.00	DETROIT	MI	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	AUDITOR	GS	0511	7	1	42,165.00	DETROIT	MI	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	AUDITOR	GS	0511	7	1	42,165.00	DETROIT	MI	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	AUDITOR	GS	0511	7	1	42,165.00	DETROIT	MI	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	AUDITOR	GS	0511	13	4	97,834.00	DETROIT	MI	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	AUDITOR	GS	0511	13	5	100,798.00	DETROIT	MI	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	AUDITOR	GS	0511	13	6	103,763.00	DETROIT	MI	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	AUDITOR	GS	0511	13	10	115,621.00	DETROIT	MI	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	AUDITOR	GS	0511	13	7	103,786.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	AUDITOR	GS	0511	13	9	109,551.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	AUDITOR	GS	0511	13	7	103,786.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	AUDITOR	GS	0511	13	7	103,786.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	AUDITOR	GS	0511	12	1	72,733.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	AUDITOR	GS	0511	13	7	103,786.00	FORT WORTH	TX	
OFFICE OF AUDIT	VACANT	REGION VI	FORT WORTH REGIONAL OFFICE	AUDITOR	GS	0512	12	1	74,872.00	FORT WORTH	TX	
OFFICE OF AUDIT	VACANT	REGION VI	FORT WORTH REGIONAL OFFICE	AUDITOR	GS	0511	12	1	74,872.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	HOUSTON FIELD OFFICE	AUDITOR	GS	0511	13	5	104,551.00	HOUSTON	TX	
OFFICE OF AUDIT		REGION VI	HOUSTON FIELD OFFICE	AUDITOR	GS	0511	13	6	107,626.00	HOUSTON	TX	
OFFICE OF AUDIT		REGION VI	HOUSTON FIELD OFFICE	AUDITOR	GS	0511	13	6	107,626.00	HOUSTON	TX	
OFFICE OF AUDIT		REGION VI	HOUSTON FIELD OFFICE	AUDITOR	GS	0511	13	7	110,701.00	HOUSTON	TX	
OFFICE OF AUDIT		REGION VI	NEW ORLEANS FIELD OFFICE	AUDITOR	GS	0511	13	1	81,823.00	NEW ORLEANS	LA	
OFFICE OF AUDIT		REGION VI	NEW ORLEANS FIELD OFFICE	AUDITOR	GS	0511	12	1	68,809.00	NEW ORLEANS	LA	
OFFICE OF AUDIT		REGION VI	NEW ORLEANS FIELD OFFICE	AUDITOR	GS	0511	12	1	68,809.00	NEW ORLEANS	LA	
OFFICE OF AUDIT		REGION VI	NEW ORLEANS FIELD OFFICE	AUDITOR	GS	0511	13	2	84,550.00	NEW ORLEANS	LA	
OFFICE OF AUDIT	VACANT	REGION VI	NEW ORLEANS FIELD OFFICE	AUDITOR	GS	0511	7	1	42,209.00	NEW ORLEANS	LA	
OFFICE OF AUDIT	VACANT	REGION VI	NEW ORLEANS FIELD OFFICE	AUDITOR	GS	0511	11	1	62,467.00	NEW ORLEANS	LA	
OFFICE OF AUDIT		REGION VI	OKLAHOMA CITY FIELD OFFICE	AUDITOR	GS	0511	13	6	95,459.00	OKLAHOMA CITY	OK	
OFFICE OF AUDIT		REGION VI	OKLAHOMA CITY FIELD OFFICE	AUDITOR	GS	0511	13	10	106,369.00	OKLAHOMA CITY	OK	
OFFICE OF AUDIT		REGION VI	OKLAHOMA CITY FIELD OFFICE	AUDITOR	GS	0511	9	1	47,448.00	OKLAHOMA CITY	OK	
OFFICE OF AUDIT		REGION VI	OKLAHOMA CITY FIELD OFFICE	AUDITOR	GS	0511	13	5	92,732.00	OKLAHOMA CITY	OK	
OFFICE OF AUDIT	VACANT	REGION VI	OKLAHOMA CITY FIELD OFFICE	AUDITOR	GS	0511	7	1	42,209.00	OKLAHOMA CITY	OK	
OFFICE OF AUDIT		REGION VI	SAN ANTONIO FIELD OFFICE	AUDITOR	GS	0511	13	3	87,278.00	SAN ANTONIO	TX	
OFFICE OF AUDIT		REGION VI	SAN ANTONIO FIELD OFFICE	AUDITOR	GS	0511	13	7	98,187.00	SAN ANTONIO	TX	
OFFICE OF AUDIT		REGION VI	SAN ANTONIO FIELD OFFICE	AUDITOR	GS	0511	13	9	103,641.00	SAN ANTONIO	TX	
OFFICE OF AUDIT		REGION VI	SAN ANTONIO FIELD OFFICE	AUDITOR	GS	0511	13	7	98,187.00	SAN ANTONIO	TX	
OFFICE OF AUDIT		REGION VI	SAN ANTONIO FIELD OFFICE	AUDITOR	GS	0511	13	6	95,459.00	SAN ANTONIO	TX	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	11	1	57,408.00	KANSAS CITY	KS	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	13	6	101,856.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	13	8	107,676.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	13	6	101,856.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	13	8	107,676.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	11	1	61,255.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	11	1	61,255.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	9	1	47,448.00	KANSAS CITY	KS	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	13	4	90,005.00	KANSAS CITY	KS	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	13	4	90,005.00	KANSAS CITY	KS	
OFFICE OF AUDIT	VACANT	REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	9	1	51,630.00	SEATTLE	WA	
OFFICE OF AUDIT	VACANT	REGION VII	KANSAS REGIONAL OFFICE	AUDITOR	GS	0511	9	1	51,630.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	ST LOUIS FIELD OFFICE	AUDITOR	GS	0511	13	4	90,005.00	ST LOUIS	MO	
OFFICE OF AUDIT		REGION VII	ST LOUIS FIELD OFFICE	AUDITOR	GS	0511	13	3	87,278.00	ST LOUIS	MO	
OFFICE OF AUDIT		REGION VII	ST LOUIS FIELD OFFICE	AUDITOR	GS	0511	9	1	47,448.00	ST LOUIS	MO	
OFFICE OF AUDIT		REGION VII	ST LOUIS FIELD OFFICE	AUDITOR	GS	0511	12	1	68,809.00	ST LOUIS	MO	
OFFICE OF AUDIT		REGION VIII	DENVER REGIONAL OFFICE	AUDITOR	GS	0511	13	8	108,304.00	DENVER	CO	
OFFICE OF AUDIT		REGION VIII	DENVER REGIONAL OFFICE	AUDITOR	GS	0511	13	5	99,523.00	DENVER	CO	
OFFICE OF AUDIT		REGION VIII	DENVER REGIONAL OFFICE	AUDITOR	GS	0511	13	7	105,377.00	DENVER	CO	
OFFICE OF AUDIT		REGION VIII	DENVER REGIONAL OFFICE	AUDITOR	GS	0511	11	2	63,665.00	DENVER	CO	
OFFICE OF AUDIT		REGION VIII	DENVER REGIONAL OFFICE	AUDITOR	GS	0511	11	1	61,612.00	DENVER	CO	

OFFICE OF AUDIT		REGION VIII	DENVER REGIONAL OFFICE	AUDITOR	GS	0511	13	8	108,304.00	DENVER	CO	
OFFICE OF AUDIT		REGION IX	SAN FRANCISCO REGIONAL OFFICE	AUDITOR	GS	0511	13	4	106,554.00	SAN FRANCISCO	CA	
OFFICE OF AUDIT		REGION IX	SAN FRANCISCO REGIONAL OFFICE	AUDITOR	GS	0511	13	7	116,240.00	SAN FRANCISCO	CA	
OFFICE OF AUDIT		REGION IX	SAN FRANCISCO REGIONAL OFFICE	AUDITOR	GS	0511	13	5	109,782.00	SAN FRANCISCO	CA	
OFFICE OF AUDIT		REGION IX	SAN FRANCISCO REGIONAL OFFICE	AUDITOR	GS	0511	13	4	106,554.00	SAN FRANCISCO	CA	
OFFICE OF AUDIT		REGION IX	SAN FRANCISCO REGIONAL OFFICE	AUDITOR	GS	0511	13	4	106,554.00	SAN FRANCISCO	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	4	100,254.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	7	109,368.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	1	91,141.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	2	94,179.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	4	100,254.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	4	100,754.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	10	118,481.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	8	112,406.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	1	91,141.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	7	109,368.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	4	100,254.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	4	100,254.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	2	94,179.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	4	100,254.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	2	94,179.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	AUDITOR	GS	0511	13	1	91,141.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	PHOENIX FIELD OFFICE	AUDITOR	GS	0511	11	9	74,370.00	PHOENIX	AZ	
OFFICE OF AUDIT		REGION IX	PHOENIX FIELD OFFICE	AUDITOR	GS	0511	11	1	58,715.00	PHOENIX	AZ	
OFFICE OF AUDIT		REGION IX	PHOENIX FIELD OFFICE	AUDITOR	GS	0511	13	2	86,476.00	PHOENIX	AZ	
OFFICE OF AUDIT		REGION IX	PHOENIX FIELD OFFICE	AUDITOR	GS	0511	13	6	97,634.00	PHOENIX	AZ	
OFFICE OF AUDIT		REGION IX	PHOENIX FIELD OFFICE	AUDITOR	GS	0511	13	2	86,476.00	PHOENIX	AZ	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	10	119,935.00	NEW YORK	NY	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	1	105,211.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	4	115,731.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	1	105,211.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	8	113,785.00	NEW YORK	NY	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	10	119,935.00	NEW YORK	NY	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	1	105,211.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	9	130,658.00	PHILADELPHIA	PA	
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	12	1	74,872.00	WASHINGTON	DC	
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	12	1	74,872.00	WASHINGTON	DC	
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	12	1	74,872.00	WASHINGTON	DC	
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	12	1	74,872.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	15	10	155,500.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	1	89,033.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	11	1	62,467.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	8	109,807.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	5	100,904.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	10	115,742.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	7	1	42,209.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	5	119,238.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	6	112,804.00	KANSAS CITY	KS	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	7	118,374.00	RICHMOND	VA	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	7	106,727.00	DETROIT	MI	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	4	115,731.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	1	105,211.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	6	122,744.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	7	122,643.00	FORT WORTH	TX	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	2	108,717.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	7	10	54,875.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	11	1	62,467.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	4	115,731.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	2	92,001.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	8	129,758.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	12	1	74,872.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	8	109,807.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	4	115,731.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	9	1	51,630.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	1	89,033.00	WASHINGTON	DC	

OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	11	1	62,467.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	9	1	51,630.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	9	1	51,630.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	10	136,771.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	7	126,251.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	10	136,771.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	6	122,744.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	5	119,238.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	4	115,731.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	14	2	108,717.00	WASHINGTON	DC			
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR (SENIOR AUDITOR-INFOSYS/COMP)	GS	0511	14	1	105,211.00	NEW YORK	NY			
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CLERK (OA)	GS	303	3	1	27,130.00	WASHINGTON	DC			
OFFICE OF AUDIT		REGION II	BUFFALO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	9	106,201.00	BUFFALO	NY			
OFFICE OF AUDIT		REGION II	BUFFALO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	10	108,996.00	BUFFALO	NY			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	DEPUTY ASSIST INSPECTOR GEN FOR AUDIT	ES	0511	0	0	155,854.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	DEPUTY ASSIST INSPECTOR GEN FOR AUDIT	ES	0511	0	0	159,845.00	WASHINGTON	DC			
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	DEPUTY FOR AUDITS SPECIAL OPERATIONS	ES	0511	0	0		WASHINGTON	DC			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	FINANCIAL AND PROGRAM EVALUATOR	GS	0501	12	10	100,859.00	NEW YORK	NY			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	FINANCIAL AUDITS DIVISION DIRECTOR	GS	0511	15	4	136,134.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	INFORMATION TECHNOLOGY SPECIALIST	GS	2210	13	1	89,033.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPEC(OPERATING SYS/APPL SOFTEWARE)	GS	2210	14	8	129,758.00	WASHINGTON	DC			
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST (SYNALYSIS)	GS	2210	14	1	105,211.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST (SYSANALYSIS)	GS	2210	12	4	82,359.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST (SYSTEMS ANALYST)	GS	2210	14	1	105,211.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST (SYSTEMS ANALYST)	GS	2210	14	7	126,251.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST (SYSTEMS ANALYST)	GS	2210	13	1	89,033.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST(APPLICATION SOFTWARE)	GS	2210	14	8	129,758.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT & PROGRAM ANALYST	GS	0343	12	8	92,341.00	WASHINGTON	DC			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	MANAGEMENT ANALYST	GS	0343	12	10	100,859.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	MANAGEMENT ANALYST	GS	0343	12	7	88,088.00	PHILADELPHIA	PA			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	12	2	77,368.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	14	2	108,717.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	14	5	120,082.00	CHICAGO	IL			
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	OFFICE AUTOMATION ASSISTANT	GS	326	5	1	34,075.00	WASHINGTON	DC			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	SENIOR AUDITOR	GS	0511	13	5	104,559.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	SENIOR AUDITOR	GS	0511	13	7	110,709.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	SENIOR AUDITOR	GS	0511	13	5	104,559.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	SENIOR AUDITOR	GS	0511	13	6	107,634.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	SENIOR AUDITOR	GS	0511	13	7	106,839.00	BALTIMORE	MD			
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SENIOR AUDITOR	GS	0511	14	1	105,211.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SENIOR AUDITOR	GS	0511	14	2	108,717.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SENIOR AUDITOR	GS	0511	14	5	119,238.00	WASHINGTON	DC			
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	STATISTICIAN	GS	1530	14	1	96,690.00	KANSAS CITY	KS			
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	STUDENT TRAINEE (AUDITING)	GS	0599	5	1	34,316.00	CHICAGO	IL			
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	15	5	140,914.00	BOSTON	MA			
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	9	133,887.00	BOSTON	MA			
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	7	126,840.00	BOSTON	MA			
OFFICE OF AUDIT	VACANT	REGION I (LABEL)	BOSTON REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	511	14	1	105,211.00	BOSTON	MA			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	5	123,557.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	8	134,458.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	15	5	145,340.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	5	123,557.00	NEW YORK	NY			
OFFICE OF AUDIT		REGION II	NEWARK FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	7	130,825.00	NEWARK	NJ			
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	15	7	145,605.00	PHILADELPHIA	PA			
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	4	113,467.00	PHILADELPHIA	PA			
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	5	116,905.00	PHILADELPHIA	PA			
OFFICE OF AUDIT		REGION III OIG	BALTIMORE FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	3	112,224.00	BALTIMORE	MD			
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	8	124,608.00	ATLANTA	GA			
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	15	8	146,578.00	ATLANTA	GA			
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	8	124,608.00	ATLANTA	GA			
OFFICE OF AUDIT		REGION IV	MIAMI FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	2	105,715.00	MIAMI	FL			
OFFICE OF AUDIT		REGION IV	JACKSON FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	6	112,804.00	JACKSON	MS			
OFFICE OF AUDIT		REGION IV	KNOXVILLE FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	6	112,804.00	KNOXVILLE	TN			
OFFICE OF AUDIT		REGION IV	SAN JUAN FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	6	103,476.00	SAN JUAN	PR			
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	8	130,677.00	CHICAGO	IL			

OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	4	116,551.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	5	120,082.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	15	6	145,407.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION V	COLUMBUS FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	7	119,076.00	COLUMBUS	OH	
OFFICE OF AUDIT		REGION V	DETROIT FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	1	105,101.00	DETROIT	MI	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	8	126,949.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	15	5	130,251.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	9	129,456.00	FORT WORTH	TX	
OFFICE OF AUDIT		REGION VI	HOUSTON FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	4	119,914.00	HOUSTON	TX	
OFFICE OF AUDIT		REGION VI	NEW ORLEANS FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	15	4	125,109.00	NEW ORLEANS	LA	
OFFICE OF AUDIT		REGION VI	NEW ORLEANS FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	2	99,913.00	NEW ORLEANS	LA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	1	103,771.00	DENVER	CO	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	15	7	136,483.00	KANSAS CITY	KS	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	5	116,924.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	KANSAS REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	4	113,486.00	SEATTLE	WA	
OFFICE OF AUDIT		REGION VII	ST LOUIS FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	5	109,581.00	ST LOUIS	MO	
OFFICE OF AUDIT		REGION VIII	DENVER REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	3	110,688.00	DENVER	CO	
OFFICE OF AUDIT		REGION IX	SAN FRANCISCO REGIONAL OFFICE	SUPERVISORY AUDITOR	GS	0511	14	5	129,729.00	SAN FRANCISCO	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	15	8	155,500.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	5	122,060.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	10	140,008.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	LOS ANGELES FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	7	129,239.00	LOS ANGELES	CA	
OFFICE OF AUDIT	VACANT	REGION IX	LOS ANGELES FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	15	1	123,758.00	LOS ANGELES	CA	
OFFICE OF AUDIT		REGION IX	PHOENIX FIELD OFFICE	SUPERVISORY AUDITOR	GS	0511	14	6	115,373.00	PHOENIX	AZ	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	14	9	133,264.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	14	10	141,726.00	NEW YORK	NY	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	1	123,758.00	WASHINGTON	DC	
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	1	123,758.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	14	9	129,456.00	ARLINGTON	TX	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	7	148,510.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	9	155,500.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	2	127,883.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	5	140,259.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	6	144,385.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	10	155,500.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	10	155,500.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	6	144,385.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR	GS	0511	15	3	132,009.00	WASHINGTON	DC	
OFFICE OF AUDIT	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY AUDITOR (DIVISION DIRECTOR	GS	0511	15	1	123,758.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY MANAGEMENT ANALYST	GS	0343	14	6	122,744.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY MANAGEMENT ANALYST OA	GS	0343	15	6	144,385.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	WRITER-EDITOR	GS	1082	13	5	100,904.00	WASHINGTON	DC	
OFFICE OF AUDIT		REGION I (LABEL)	BOSTON REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	10	61,048.00	BOSTON	MA	
OFFICE OF AUDIT		REGION II	NEW YORK REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	9	61,352.00	NEW YORK	NY	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	7	54,994.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	10	59,576.00	PHILADELPHIA	PA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	10	58,353.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION IV	ATLANTA REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	4	49,378.00	ATLANTA	GA	
OFFICE OF AUDIT		REGION V	CHICAGO REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	10	61,195.00	CHICAGO	IL	
OFFICE OF AUDIT		REGION VI	FORT WORTH REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	10	59,028.00	FORT WORTH	TX	
OFFICE OF AUDIT	VACANT	REGION IX	LOS ANGELES FIELD OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	303	7	1	42,209.00	LOS ANGELES	CA	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	5	57,976.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	4	51,418.00	WASHINGTON	DC	
OFFICE OF AUDIT		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	3	49,861.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ASST INSPECTOR GENERAL FOR INVEST	ES	1811	0	0	177,606.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	AUDITOR	GS	0511	13	6	105,209.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	AUDITOR	GS	0511	13	6	105,209.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	AUDITOR	GS	0511	13	6	105,209.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	AUDITOR	GS	0511	13	6	105,209.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	AUDITOR	GS	0511	13	5	102,204.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	AUDITOR	GS	0511	13	6	105,209.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	AUDITOR	GS	0511	7	1	42,209.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	AUDITOR	GS	0511	13	10	106,369.00	BATON ROUGE	LA	
OFFICE OF INVESTIGATIONS	VACANT	REGION VI	NEW ORLEANS FIELD OFFICE	AUDITOR	GS	0511	11	1	62,467.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION X OIG	SEATTLE REGIONAL OFFICE	AUDITOR	GS	0511	7	1	41,390.00	SEATTLE	WA	

OFFICE OF INVESTIGATIONS		REGION X-OIG	SEATTLE REGIONAL OFFICE	AUDITOR	GS	0511	7	1	41,390.00	SEATTLE	WA	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	AUDITOR	GS	0511	13	7	106,839.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CLERK	GS	0303	4	1	30,456.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	CLERK	GS	0303	4	1	27,390.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CLERK (OA)	GS	0303	3	1	27,130.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CLERK (OA)	GS	0303	3	1	27,130.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	3	80,236.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	62,758.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	2	92,431.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	98,394.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	89,449.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	63,271.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	105,209.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	HARTFORD AREA OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	99,198.00	HARTFORD	CT	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	MANCHESTER FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	107,338.00	MANCHESTER	NH	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	MANCHESTER FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	107,338.00	MANCHESTER	NH	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	MANCHESTER FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	107,338.00	MANCHESTER	NH	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	107,634.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	101,484.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	104,559.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	64,729.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	107,634.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	104,559.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	64,729.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	55,283.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	55,283.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	110,709.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	107,634.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	107,634.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS	VACANT	REGION II	NEW YORK REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	1	42,209.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEWARK FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	64,729.00	NEWARK	NJ	
OFFICE OF INVESTIGATIONS		REGION II	NEWARK FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	113,785.00	NEWARK	NJ	
OFFICE OF INVESTIGATIONS		REGION II	NEWARK FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	71,328.00	NEWARK	NJ	
OFFICE OF INVESTIGATIONS		REGION II	NEWARK FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	10	62,697.00	NEWARK	NJ	
OFFICE OF INVESTIGATIONS		REGION II	NEWARK FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	110,709.00	NEWARK	NJ	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	104,749.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	14	6	120,343.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	107,659.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	61,245.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	96,020.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	98,930.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	10	115,742.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	100,904.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	100,904.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	103,872.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	106,839.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	1	74,872.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	103,872.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	1	47,838.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	2	92,001.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	106,839.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	PITTSBURGH FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	100,088.00	PITTSBURGH	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	PITTSBURGH FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	7	84,168.00	PITTSBURGH	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	PITTSBURGH FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	49,979.00	PITTSBURGH	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	RICHMOND FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	94,609.00	RICHMOND	VA	
OFFICE OF INVESTIGATIONS		REGION III OIG	RICHMOND FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	10	108,521.00	RICHMOND	VA	
OFFICE OF INVESTIGATIONS		REGION III OIG	RICHMOND FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	97,391.00	RICHMOND	VA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	10	55,605.00	LOUISVILLE	KY	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	5	65,061.00	COLUMBIA	SC	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	49,029.00	NASHVILLE	TN	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	66,102.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	105,449.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	102,599.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	85,500.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	90,005.00	NASHVILLE	TN	

OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	90,005.00	LOUISVILLE	KY	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	85,500.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	6	70,864.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	95,459.00	BIRMINGHAM	AL	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	85,500.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	57,408.00	BIRMINGHAM	AL	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	85,500.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	96,899.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	5	77,983.00	COLUMBIA	SC	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	87,278.00	MEMPHIS	TN	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	85,500.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	BIRMINGHAM FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	81,823.00	BIRMINGHAM	AL	
OFFICE OF INVESTIGATIONS		REGION IV	MIAMI FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	95,232.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	MIAMI FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	66,933.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	MIAMI FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	60,742.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	MIAMI FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	95,232.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	MIAMI FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	95,232.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	MIAMI FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	86,575.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	GREENSBORO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	100,914.00	GREENSBORO	NC	
OFFICE OF INVESTIGATIONS		REGION IV	GREENSBORO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	2	84,550.00	GREENSBORO	NC	
OFFICE OF INVESTIGATIONS		REGION IV	GREENSBORO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	100,914.00	GREENSBORO	NC	
OFFICE OF INVESTIGATIONS		REGION IV	JACKSONVILLE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	100,914.00	JACKSONVILLE	FL	
OFFICE OF INVESTIGATIONS		REGION IV	KNOXVILLE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	57,408.00	KNOXVILLE	TN	
OFFICE OF INVESTIGATIONS		REGION IV	KNOXVILLE FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	87,278.00	KNOXVILLE	TN	
OFFICE OF INVESTIGATIONS		REGION IV	SAN JUAN FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	85,064.00	SAN JUAN	PR	
OFFICE OF INVESTIGATIONS		REGION IV	SAN JUAN FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	75,057.00	SAN JUAN	PR	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	95,459.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	49,029.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	95,459.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	4	63,148.00	JACKSONVILLE	FL	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	2	84,550.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	81,823.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	2	59,321.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	101,619.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	101,619.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	104,607.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	1	48,177.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	101,619.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	67,078.00	MINNEAPOLIS	MN	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	104,607.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	95,641.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	107,596.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	98,630.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	95,641.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	95,641.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	53,728.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	10	60,934.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	110,585.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	50,971.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	1	71,533.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	85,063.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	50,971.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	10	77,582.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	85,063.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	53,294.00	DETROIT	MI	
OFFICE OF INVESTIGATIONS		REGION V	COLUMBUS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	95,169.00	COLUMBUS	OH	
OFFICE OF INVESTIGATIONS		REGION V	COLUMBUS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	92,370.00	COLUMBUS	OH	
OFFICE OF INVESTIGATIONS		REGION V	COLUMBUS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	4	64,807.00	COLUMBUS	OH	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	1	74,294.00	DETROIT	MI	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	10	60,442.00	DETROIT	MI	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	62,401.00	DETROIT	MI	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	1	43,964.00	GRAND RAPIDS	MI	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	94,869.00	DETROIT	MI	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	90,005.00	GRAND RAPIDS	MI	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	109,692.00	DETROIT	MI	

OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	53,294.00	DETROIT	MI	
OFFICE OF INVESTIGATIONS		REGION V	INDIANAPOLIS FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	49,753.00	INDIANAPOLIS	IN	
OFFICE OF INVESTIGATIONS		REGION V	INDIANAPOLIS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	90,415.00	INDIANAPOLIS	IN	
OFFICE OF INVESTIGATIONS		REGION V	MINNEAPOLIS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	106,925.00	MINNEAPOLIS	MN	
OFFICE OF INVESTIGATIONS		REGION V	MINNEAPOLIS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	2	89,587.00	MINNEAPOLIS	MN	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	49,253.00	INDIANAPOLIS	IN	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	1	46,471.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	95,137.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	98,020.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	1	46,471.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	106,669.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	98,020.00	FORT WORTH	TX	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	66,867.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	92,255.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	HOUSTON FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	3	87,750.00	HOUSTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	HOUSTON FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	2	80,164.00	HOUSTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	HOUSTON FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	10	119,926.00	HOUSTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	HOUSTON FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	110,701.00	HOUSTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	HOUSTON FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	101,476.00	HOUSTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	HOUSTON FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	113,776.00	HOUSTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	LITTLE ROCK FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	98,187.00	LITTLE ROCK	AR	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	81,823.00	BATON ROUGE	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	10	106,369.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	49,029.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	90,005.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	87,278.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	81,823.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	49,029.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	90,005.00	JACKSON	MS	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	57,408.00	HATTIESBURG	MS	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	57,408.00	JACKSON	MS	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	87,278.00	BATON ROUGE	LA	
OFFICE OF INVESTIGATIONS		REGION VI	OKLAHOMA CITY FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	81,823.00	OKLAHOMA CITY	OK	
OFFICE OF INVESTIGATIONS		REGION VI	OKLAHOMA CITY FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	57,408.00	OKLAHOMA CITY	OK	
OFFICE OF INVESTIGATIONS	VACANT	REGION VI	OKLAHOMA CITY FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	7	1	42,209.00	OKLAHOMA CITY	OK	
OFFICE OF INVESTIGATIONS		REGION VI	SAN ANTONIO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	87,278.00	SAN ANTONIO	TX	
OFFICE OF INVESTIGATIONS		REGION VI	SAN ANTONIO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	92,732.00	SAN ANTONIO	TX	
OFFICE OF INVESTIGATIONS		REGION VI	SAN ANTONIO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	2	84,550.00	SAN ANTONIO	TX	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	2	84,550.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	92,732.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	9	103,641.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	87,278.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	10	55,605.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	63,259.00	CREVE COEUR	MO	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	1	57,408.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	100,914.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	90,005.00	SALT LAKE CITY	UT	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	67,892.00	DENVER	CO	
OFFICE OF INVESTIGATIONS		REGION VII	ST LOUIS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	100,914.00	ST LOUIS	MO	
OFFICE OF INVESTIGATIONS		REGION VII	ST LOUIS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	100,914.00	ST LOUIS	MO	
OFFICE OF INVESTIGATIONS		REGION VII	ST LOUIS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	98,187.00	ST LOUIS	MO	
OFFICE OF INVESTIGATIONS		REGION VIII	DENVER REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	105,377.00	DENVER	CO	
OFFICE OF INVESTIGATIONS		REGION VIII	DENVER REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	7	1	47,184.00	DENVER	CO	
OFFICE OF INVESTIGATIONS		REGION VIII	DENVER REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	99,523.00	DENVER	CO	
OFFICE OF INVESTIGATIONS		REGION VIII	DENVER REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	98,187.00	BILLINGS	MT	
OFFICE OF INVESTIGATIONS		REGION VIII	SALT LAKE CITY COMM SERVICE CENTE	CRIMINAL INVESTIGATOR	GS	1811	13	3	87,278.00	SALT LAKE CITY	UT	
OFFICE OF INVESTIGATIONS		REGION IX	SAN FRANCISCO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	2	84,175.00	SAN FRANCISCO	CA	
OFFICE OF INVESTIGATIONS		REGION IX	SAN FRANCISCO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	87,586.00	SACRAMENTO	CA	
OFFICE OF INVESTIGATIONS		REGION IX	SAN FRANCISCO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	106,554.00	SAN FRANCISCO	CA	
OFFICE OF INVESTIGATIONS		REGION IX	SAN FRANCISCO REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	63,259.00	LAS VEGAS	NV	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	5	1	43,017.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	5	103,292.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	100,254.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	52,482.00	SACRAMENTO	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	1	58,044.00	SAN FRANCISCO	CA	

OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	11	2	66,076.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	100,254.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	97,216.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	100,254.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	6	63,419.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	7	109,368.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS	VACANT	REGION IX	LOS ANGELES FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	1	89,033.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	PHOENIX FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	10	108,791.00	PHOENIX	AZ	
OFFICE OF INVESTIGATIONS		REGION IX	PHOENIX FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	8	103,212.00	PHOENIX	AZ	
OFFICE OF INVESTIGATIONS		REGION IX	PHOENIX FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	92,055.00	PHOENIX	AZ	
OFFICE OF INVESTIGATIONS		REGION IX	OIG, SACRAMENTO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	6	102,182.00	SACRAMENTO	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LAS VEGAS FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	90,005.00	LAS VEGAS	NV	
OFFICE OF INVESTIGATIONS		REGION X - OIG	SEATTLE REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	4	96,036.00	SEATTLE	WA	
OFFICE OF INVESTIGATIONS		REGION X - OIG	SEATTLE REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	13	3	93,126.00	SEATTLE	WA	
OFFICE OF INVESTIGATIONS		REGION X - OIG	SEATTLE REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GS	1811	12	6	85,656.00	SEATTLE	WA	
OFFICE OF INVESTIGATIONS		REGION X - OIG	SEATTLE REGIONAL OFFICE	CRIMINAL INVESTIGATOR	GL	1811	9	10	67,499.00	SEATTLE	WA	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	6	119,236.00	FORT WORTH	TX	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	8	129,758.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	10	136,771.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	2	108,717.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	4	115,731.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	6	122,744.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	13	1	89,033.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	2	108,717.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	2	108,717.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	3	112,224.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL INVESTIGATOR	GS	1811	14	2	108,717.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS	VACANT		NEW MEXICO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	7	1	42,209.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS	VACANT		NEW MEXICO FIELD OFFICE	CRIMINAL INVESTIGATOR	GS	1811	7	1	42,209.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	7	90,265.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	6	90,515.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	ADMINISTRATIVE OFFICER	GS	0341	9	8	63,673.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	11	1	59,987.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	ADMINISTRATIVE OFFICER	GS	0341	11	3	61,234.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	5	85,456.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	10	92,992.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION V	FORT WORTH REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	6	84,854.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	5	77,983.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	4	75,689.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	5	86,863.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION X - OIG	SEATTLE REGIONAL OFFICE	ADMINISTRATIVE OFFICER	GS	0341	12	1	73,420.00	SEATTLE	WA	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE OFFICER	GS	0341	12	4	82,359.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	10	62,966.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	10	62,966.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEWARK FIELD OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	10	62,966.00	NEWARK	NJ	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	9	58,049.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	7	3	43,780.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	NASHVILLE FIELD OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	7	7	46,551.00	NASHVILLE	TN	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	9	59,626.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	1	46,696.00	DETROIT	MI	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	8	56,002.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	HOUSTON FIELD OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	5	54,891.00	HOUSTON	TX	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	1	46,106.00	DENVER	CO	
OFFICE OF INVESTIGATIONS		REGION IX	SAN FRANCISCO REGIONAL OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	9	64,417.00	SAN FRANCISCO	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	9	60,608.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	0303	8	6	52,975.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CRIMINAL RESEARCH SPECIALIST	GS	1801	14	4	115,731.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	DEPUTY ASSISTANT INSPECTOR GENERAL	ES	1811	0	0	167,879.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	DEPUTY ASST INSPECTOR GENERAL FOR INV	ES	1811	0	0	166,682.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	INFORMATION TECH SPECIALIST(INFOSEC)	GS	2210	14	8	129,758.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	INFORMATION TECH SPECIALIST(INFOSEC)	GS	2210	14	8	129,758.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS	VACANT	REGION III OIG	PHILADELPHIA REGIONAL OFFICE	INVESTIGATIVE ANALYST	GS	1805	12	1	74,872.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS	VACANT	REGION III OIG	BALTIMORE FIELD OFFICE	INVESTIGATIVE ANALYST	GS	1805	12	1	74,872.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS	VACANT	REGION IV	ATLANTA REGIONAL OFFICE	INVESTIGATIVE ANALYST	GS	1805	12	1	74,872.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS	VACANT	REGION V	CHICAGO REGIONAL OFFICE	INVESTIGATIVE ANALYST	GS	1805	12	1	74,872.00	CHICAGO	IL	

OFFICE OF INVESTIGATIONS	VACANT	REGION V	COLUMBUS FIELD OFFICE	INVESTIGATIVE ANALYST	GS	1805	12	1	74,872.00	COLUMBUS	OH	
OFFICE OF INVESTIGATIONS	VACANT	REGION VI	FORT WORTH REGIONAL OFFICE	INVESTIGATIVE ANALYST	GS	1805	13	1	89,033.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS	VACANT	REGION VII	KANSAS REGIONAL OFFICE	INVESTIGATIVE ANALYST	GS	1805	12	1	74,872.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS	VACANT	REGION IX	LOS ANGELES FIELD OFFICE	INVESTIGATIVE ANALYST	GS	1805	12	1	74,872.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	INVESTIGATOR	GS	1810	13	5	100,904.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST	GS	2210	12	1	74,872.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST (SYANALY/DATABASE MGMT)	GS	2210	12	1	74,872.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	343	14	1	105,211.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	14	5	119,238.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	NATIONAL USE OF FORCE COORDINATOR	GS	1801	13	1	89,033.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		REGION III OIG	RICHMOND FIELD OFFICE	OFFICE AUTOMATION ASSISTANT	GS	0326	5	1	31,949.00	RICHMOND	VA	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	OFFICE AUTOMATION ASSISTANT	GS	0326	5	1	31,315.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	OFFICE AUTOMATION ASSISTANT	GS	0326	5	1	32,555.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION IX	SAN FRANCISCO REGIONAL OFFICE	OFFICE AUTOMATION ASSISTANT	GS	0326	5	1	33,521.00	SACRAMENTO	CA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	STUDENT TRAINEE (CRIM INVESTIGATING)	GS	1899	4	1	30,598.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	STUDENT TRAINEE (CRIM INVESTIGATING)	GS	1899	5	1	34,234.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS	VACANT	REGION I (LABEL)	BOSTON REGIONAL OFFICE	STUDENT TRAINEE (CRIMINAL INVESTIGATOR	GS	1899	4	1	30,456.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS	VACANT	REGION III OIG	PHILADELPHIA REGIONAL OFFICE	STUDENT TRAINEE (CRIMINAL INVESTIGATOR	GS	1899	7	1	42,209.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS	VACANT	REGION IV	MIAMI FIELD OFFICE	STUDENT TRAINEE (CRIMINAL INVESTIGATOR	GS	1899	7	1	42,209.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	3	132,625.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	5	119,794.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION I (LABEL)	BOSTON REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	5	119,794.00	BOSTON	MA	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	6	127,191.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	4	141,066.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEW YORK REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	4	119,923.00	NEW YORK	NY	
OFFICE OF INVESTIGATIONS		REGION II	NEWARK FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	6	127,191.00	NEWARK	NJ	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	5	137,516.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	PHILADELPHIA REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	4	113,467.00	PHILADELPHIA	PA	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	5	119,238.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	5	119,238.00	BALTIMORE	MD	
OFFICE OF INVESTIGATIONS		REGION III OIG	BALTIMORE FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	5	140,259.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	4	106,358.00	NASHVILLE	TN	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	6	117,873.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	ATLANTA REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	4	111,138.00	ATLANTA	GA	
OFFICE OF INVESTIGATIONS		REGION IV	MIAMI FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	3	109,125.00	MIAMI	FL	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	2	117,527.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION IV	TAMPA FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	4	106,358.00	TAMPA	FL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	6	123,614.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	8	130,677.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CHICAGO REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	6	145,407.00	CHICAGO	IL	
OFFICE OF INVESTIGATIONS		REGION V	CLEVELAND FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	1	100,518.00	CLEVELAND	OH	
OFFICE OF INVESTIGATIONS		REGION V	DETROIT FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	1	105,101.00	DETROIT	MI	
OFFICE OF INVESTIGATIONS	VACANT	REGION V	COLUMBUS FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	1	123,758.00	COLUMBUS	OH	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	3	128,236.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	FORT WORTH REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	2	105,610.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS	VACANT	REGION VI	FORT WORTH REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	1	123,758.00	ARLINGTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	HOUSTON FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	4	119,914.00	HOUSTON	TX	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	1	96,690.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	3	121,318.00	NEW ORLEANS	LA	
OFFICE OF INVESTIGATIONS		REGION VI	NEW ORLEANS FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	2	99,913.00	JACKSON	MS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	3	103,136.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	10	125,695.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VII	KANSAS REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	4	125,109.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS	VACANT	REGION VII	KANSAS REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	1	123,758.00	KANSAS CITY	KS	
OFFICE OF INVESTIGATIONS		REGION VIII	DENVER REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	5	117,606.00	DENVER	CO	
OFFICE OF INVESTIGATIONS		REGION IX	SAN FRANCISCO REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	2	118,283.00	SAN FRANCISCO	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	4	118,470.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	8	132,829.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION IX	LOS ANGELES FIELD OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	6	147,802.00	LOS ANGELES	CA	
OFFICE OF INVESTIGATIONS		REGION X -OIG	SEATTLE REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	4	133,493.00	SEATTLE	WA	
OFFICE OF INVESTIGATIONS		REGION X -OIG	SEATTLE REGIONAL OFFICE	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	3	110,047.00	SEATTLE	WA	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	7	148,510.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	7	126,251.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	2	108,717.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	4	115,731.00	FORT MCNAIR	DC	

OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	15	2	127,883.00	WASHINGTON	DC	
OFFICE OF INVESTIGATIONS		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY CRIMINAL INVESTIGATOR	GS	1811	14	5	119,738.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE OFFICER	GS	0341	12	9	94,837.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ADMINISTRATIVE SUPPORT ASSISTANT (OA)	GS	303	6	1	37,983.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	ASST INSP GENERAL FOR MGMT & POLICY	ES	0301	0	0	172,373.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	BUDGET ANALYST	GS	0560	12	4	82,359.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	BUDGET ANALYST	GS	560	9	1	51,630.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CLERK	GS	0303	4	1	30,456.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CLERK	GS	303	2	1	24,865.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CLERK	GS	303	3	1	27,130.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CLERK (OA)	GS	0303	3	1	27,130.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	CLERK (OA)	GS	0303	3	1	27,130.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	DEPUTY ASST INSPECTOR GENERAL FOR MGM	ES	0301	0	0	144,302.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	DIRECTOR OF HUMAN RESOURCES	GS	0201	15	2	127,883.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	EQUAL EMPLOYMENT MANAGER	GS	0260	14	6	122,744.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	HUMAN RESOURCES SPECIALIST	GS	0201	13	4	97,936.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	HUMAN RESOURCES SPECIALIST	GS	0201	14	7	126,251.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	HUMAN RESOURCES SPECIALIST	GS	201	13	1	89,033.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	INFORMATION TECH SPECIALIST (INTERNET)	GS	2210	14	1	105,211.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	INFORMATION TECHNOLOGY SPECIALIST	GS	2210	14	7	126,251.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY	VACANT	HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	INFORMATION TECHNOLOGY SPECIALIST	GS	2210	14	1	105,211.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST	GS	2210	14	2	108,717.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST	GS	2210	14	8	129,758.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST	GS	2210	14	6	122,744.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST	GS	2210	14	6	122,744.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST	GS	2210	13	10	115,742.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST (PLCYPLN)	GS	2210	15	6	144,385.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	IT SPECIALIST(SECURITY)	GS	2210	14	7	126,251.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	14	6	123,317.00	BOSTON	MA	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	14	5	114,505.00	ATLANTA	GA	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	9	2	53,350.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	13	5	100,904.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	12	1	74,872.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	MANAGEMENT ANALYST	GS	0343	5	1	34,075.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PROGRAM ANALYST	GS	0343	13	4	97,936.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PROGRAM ANALYST	GS	0343	13	2	92,001.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PROGRAM ANALYST	GS	0343	13	1	89,033.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PROGRAM ANALYST	GS	0343	13	1	89,033.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PROGRAM ANALYST	GS	0343	13	4	97,936.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PROGRAM ANALYST	GS	0343	13	6	103,872.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PROGRAM ANALYST	GS	0343	13	4	97,936.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PROGRAM ANALYST	GS	0343	14	3	110,688.00	DENVER	CO	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	PUBLIC AFFAIRS SPECIALIST	GS	1035	14	10	136,771.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SPVY. HR SPECIALIST (EMP DEVELOPMENT)	GS	0201	15	4	136,134.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY BUDGET ANALYST	GS	0560	14	3	112,224.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY BUDGET OFFICER	GS	0560	15	1	123,758.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY HR SPLST (EMPLOYEE DEV)	GS	0201	14	3	117,224.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY MANAGEMENT ANALYST	GS	0343	14	7	126,251.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY PROGRAM ANALYST	GS	0343	14	3	112,224.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	SUPERVISORY PROGRAM ANALYST	GS	0343	15	3	132,009.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	WRITER-EDITOR	GS	1082	13	2	92,001.00	WASHINGTON	DC	
OFFICE OF MANAGEMENT & POLICY		HEADQUARTERS	OFFICE OF INSPECTOR GENERAL	WRITER-EDITOR	GS	1082	5	1	34,075.00	WASHINGTON	DC	

Note:

1. Vacancies include backfills and part of the new 30 positions
2. All vacancies have been posted for employment

4. **Please provide a listing of the 30 positions that OIG again requests in FY 2011 that were new in FY 2010. This listing should contain the position title, office, grade level, salary, basic description of the position responsibilities, and physical location of the position.**

See Attachment #1.

Office of the Inspector General - Department of Housing and Urban Development (HUD)

4. Please provide a listing of the 30 positions that OIG again requests in FY 2011 that were new in FY 2010. This listing should contain the position title, office, grade level, salary, basic description of the position responsibilities, and physical location of the position.

	Position Title	Office	Grade	Salary	Description of Position	Physical Location	Status
1	Auditor	Investigations	14	$119,238	Supports Inspections and Evaluations Division conducting reviews of HUD Programs.	Washington, DC	Filled
2	Auditor	Investigations	14	$119,238	Supports Inspections and Evaluations Division conducting reviews of HUD Programs.	Washington, DC	Filled
3	Criminal Investigator	Investigations	13	$95,023	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	New York	Filled
4	Criminal Investigator	Investigations	9	$95,023	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	New York	Filled
5	Criminal Investigator	Investigations	7	$53,847	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	Chicago	Filled
6	Criminal Investigator	Investigations	7	$53,847	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	Chicago	Filled
7	Criminal Investigator	Investigations	9	$61,657	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	Los Angeles	Filled

8	Criminal Investigator	Investigations	9	$60,232	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	Las Vegas	Filled
9	Criminal Investigator	Investigations	9	$55,354	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	New Orleans	Filled
10	Criminal Investigator	Investigations	13	$92,732	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	Baton Rouge	Filled
11	Criminal Investigator	Investigations	9	$58,569	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	Miami	Filled
12	Criminal Investigator	Investigations	7	$53,412	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	Detroit	Filled
13	Criminal Investigator	Investigations	9	$57,546	Conducts investigations of allegations which indicate the possibility of a violation of applicable Federal criminal statutes involving fraud and corruption, within the jurisdiction of the Department of Housing and Urban Development (HUD).	Cleveland	Filled
14	IT Specialist	Investigations	12/13/14	$100,904	Serves as an IT Specialist in the Office of Investigation (OI), Investigation Support Division (ISD), and is responsible for serving primarily as a database administrator and IT support staff for the OI case information systems.	Washington, DC	Not Filled*

15	Management Analyst	Investigations	14	$119,238	Serves as a Management Analyst in the Criminal Investigation Division and is responsible for providing staff support to the Special Agent In Charge. These services cover the full range of analytical support critical to the Office of Investigation.	Washington, DC	Not Filled*
16	Supervisory Auditor	Audit	GS-511-14	$112,804	Supervision of audit work	Jackson, MS	On board
17	Auditor	Region 11	GS-511 9/11	$47,448- $74,628	Basic audit duties	New Orleans, LA	In rating
18	Auditor	Region VII	GS 511-09	$47,448	Basic audit duties	Kansas City, KC	EOD pending
19	Auditor	ISAD	S-511-12/13/14	$74,872 - $136,771	Information system audit work	Washington, D.C.	Vacancies closed and processing.
20	Auditor	ISAD	2210-12/13/14	$74,872 $136,771	Information system audit work	Washington, D.C.	Vacancies closed and processing.
21	Auditor	TOP	GS-511-14	$115,731	Desk officer duties	Washington, D.C.	On board.
22	Supervisory Auditor	HAD	GS-511-15	$127,883	Supervision of audit work	Washington, D.C.	On board
23	Senior Auditor	HAD	GS-511-14	$108,717	Audit duties.	Washington, D.C.	On board
24	Auditor	HAD	GS-511-13	$115,742	Audit duties.	Washington, D.C.	On board.
25	Auditor	HAD	GS-511-13	$109,807	Audit duties.	Washington, D.C.	On board.
26	Auditor	HAD	GS-511-13	$100,904	Audit duties.	Washington, D.C.	On board
27	Auditor	HAD	GS 511-13	$89,033	Audit duties.	Washington, D.C.	On board.
28	Auditor	FAD	GS-511-12/13	$74,872 – $115,742	Financial audit duties.	Washington, D.C.	Certificate Issued.
29	Auditor	FAD	GS-511-13/14	$89,033 - $136,771	Financial audit duties.	Washington, D.C.	Certificate Issued.
30	Auditor	FAD	GS-511-13/14	$89,033 - $136,771	Financial audit duties.	Washington, D.C.	Sent to rating.

* Vacancies have been posted for employment.

5. **As in FY 2010, OIG requests an additional 30 FTEs over FY 2009 enacted in order to continue work began with supplemental funding. According to the budget, OIG has more than $20 million in unobligated supplemental funding. Please explain the need for regular budget authority when OIG has supplemental funding available.**

   At the time the budget justification for FY 2010 was prepared it was anticipated that our supplemental funding would be expended by the end of FY 2009. Due to the length of the continuing resolution, we delayed our spending on certain costs and hiring until the actual budget amount was finally available. As a result, we ended with appropriated funding that we expended instead of the supplemental funds at the end of the fiscal year. This year because we started the year with a higher FTE number due to the compressed budget cycle and with a small increase in the appropriated funds. We will be back on track for using the remaining disaster-related supplemental funds.

6. **As in FY 2010, the FY 2011 budget requests regular budget authority for 30 FTE to continue work began with supplemental funding. Broadly, please explain the long-term plan as it relates to FTEs and supplemental funding.**

   We have 30 dedicated FTEs on disaster-related oversight activities and also use other staff nationwide as needed for oversight activities outside the Gulf State region. We track the hours and salaries of all staff on disaster assignments. The need and timing for audits and investigations generally occurs 1-2 years after program expenditures. We plan to use our supplemental funds to parallel the state's drawdown and expenditures. The following table shows HUDs supplemental funding and ours:

HUD Supplemental usage vs OIG Supplemental usage

DISASTER Supplemental	HUD		OIG	
	Dollars	**%**	**Dollars**	**%**
Total enacted	$19.7B	100	15M	100
Spent to date	$14.3B	73	9M	60
Unexpended	$ 5.4B	27%*	6M	40%*

*Approximately 2 year delay for identification of criminal activities and subsequent prosecution (i.e., on-going Grand Jury proceedings, etc.).

The States still have over $5 billion to spend and we are trying to conserve our funding so we can afford the staff needed for audits and investigations in the future for the remaining funds as well as to continue investigative matters.
Based on this we plan to use our funds as follows:

	FY 2010	FY 2011	FY 2012	FY 2013
Disaster Supplemental	1M	1M	1M	3.3M

Supplemental Funding

7. **In table format, please provide a chart showing all supplemental funding for HUD OIG since 2000. In this table, please include public law number, name of Act, amount, intent, and status of funds (i.e. committed, obligated, and expended) to date. For any supplemental funding since 2005, please provide status of each fiscal year or most recent available data to date.**

See Attachment #1.

Office of the Inspector General - Department of Housing and Urban Development (HUD)

7. In a table format, please provide a chart showing all supplemental funding for HUD OIG since 2000. In this table, please include public law number, name of Act, amount, intent, and status of funds to date. For any supplemental funding since 2005, please provide status of funds for each fiscal year end or most recent available data to date.

OIG Supplemental Funding	Public Law / Name of Act/Intent	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
Emergency Response Fund	P.L. 107-117: Department of Defense and Emergency Supplemental Appropriations for Recovery from and Response to Terrorist Attacks on the United States For Emergency expenses to respond to the September 11, 2001 terrorist attacks on the United States that were incurred as a result of the destruction of facilities, supplies, and equipment, $1,000,000 to remain available until expended. HUD OIG's offices in the World Trade Center that were damaged during the attacks. This appropriation will pay for repairing damaged offices and invest gative equipment (telephones, furniture, computers, vehicles and supplies)	$0	$0	$1,000,000	$161	$104	$71	$0	$0	$0	$0	$0
Emergency Response Fund - Audit of Section 514 Technical Assistance Grants (P.L. 107-117)	Pursuant to P.L. 107-117 Statue 2230, for anticipated reimbursements for audit purposes of section 514 Technical Assistance Funding	$0	$0	$100	$0	$0	$0	$0	$0	$0	$0	$0
Hurricane Recovery Supplemental	P.L. 109-234: Emergency Supplemental Appropriations Act for Defense, the Global War on Terror, and Hurricane Recovery, 2006 Necessary expenses related to Disaster Relief and long term recovery for Hurricane Katrina ***(to oversee $16.6 billion in new HUD spending)***	$0	$0	$0	$0	$0	$0	$9,000	$8,089	$7,647	$148	$148
Katrina Recovery Supplemental	P.L. 110-28: Making Emergency Appropriations and Additional Supplemental Appropriations for Agricultural and other Emergency Assistance For an additional amount for the Office of Inspector General, for the necessary costs related to the consequences of Hurricanes Katrina and Rita. ***(to oversee an additional $3 billion in new HUD spending for a total of $19.7 billion HUD spending)***	$0	$0	$0	$0	$0	$0	$0	$7,000	$6,228	$6,228	$6,228
American Recovery Act	P.L. 111-5: American Recovery and Reinvestment Act of 2009 For an additional amount for the necessary salaries and expenses of the Office of Inspector General in carrying out the Inspector General Act of 1978, as amended, $15,000,000 to remain available until September 30, 2012: Provided, That Inspector General shall have independent authority over all personnel issues within this office. ***(to oversee an additional $13.6 billion in new HUD spending)***	$0	$0	$0	$0	$0	$0	$0	$0	$0	$15,000	$14,916
Total Budget Authority		**$0**	**$0**	**$1,000,100**	**$161**	**$104**	**$71**	**$9,000**	**$15,089**	**$9,875**	**$21,376**	**$21,292**

Note.

*Amount in Thousands

Status of Funds for supplemental funding since 2005 at year end in each Fiscal Year

OIG Supplemental Funding	Public Law	FY 2005 Year-end Available	FY 2006 Year-end Available	FY 2007 Year-end Available	FY 2008 Year-end Available	FY 2009 Year-end Available	FY 2010 Available (Estimate)
Emergency Response Fund ([illegible])	P.L. 107-117	$0	$0	$0	$0	$0	$0
Hurricane Recovery Supplemental	P.L. 109-234	$0	$8,089	$7,647	$148	$148	$0
Katrina Recovery Supplemental	P.L. 110-28	$0	$0	$7,000	$6,228	$6,228	$5,228*
American Recovery Act	P.L. 111-5	$0	$0	$0	$0	$14,916	$14,268**
Total Budget Available (unobligated balances)		**$0**	**$8,089**	**$14,647**	**$6,376**	**$21,292**	**$19,496**

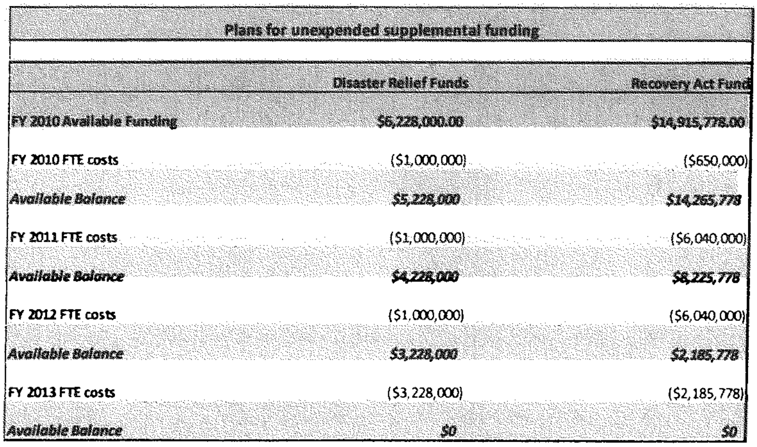
Note.

*Amount in Thousands

** $5.4 billion has not been expensed by HUD

*** Only $1.1 billion of the $13.6 billion has been disbursed

8. Briefly describe your plans as they relate to unexpended supplemental funding.



Plans for unexpended supplemental funding

	Disaster Relief Funds	Recovery Act Fund
FY 2010 Available Funding	**$6,228,000.00**	**$14,915,778.00**
FY 2010 FTE costs	($1,000,000)	($650,000)
Available Balance	***$5,228,000***	***$14,265,778***
FY 2011 FTE costs	($1,000,000)	($6,040,000)
Available Balance	***$4,228,000***	***$8,225,778***
FY 2012 FTE costs	($1,000,000)	($6,040,000)
Available Balance	***$3,228,000***	***$2,185,778***
FY 2013 FTE costs	($3,228,000)	($2,185,778)
Available Balance	***$0***	***$0***

1. ***Disaster relief supplemental funding: Please see question 6.***
2. ***Recovery Act supplemental funding:***

Of HUD's $13.6 billion Recovery Act funds, only $1.3 billion have been disbursed. OIG must pace its expenditure of recovery oversight funds or be faced with a lack of funds to finish oversight of nearly 75% of HUD's Recovery Act funds remaining to be spent. Furthermore, expenditures must track the workload. The workload usually takes 2 years to ramp u as the funds are being distributed. We have already completed 59 au and must make sure that our funds remain for additional oversight.

With only 24% of the funds expended by HUD, we could have not use our funding in FY 2009 and FY 2010 without putting oversight of the majority of the work in jeopardy in future years. We are pacing our expenses to match our workload and future requirements. Because ARRA funds will expire in 2013, we anticipate a spending rate of about $1 million in FY 2010, $6 million in FY 2011 and FY 2012; and $2.2 million in FY 2013.

9. Please provide a table showing FTEs hired specifically with supplemental funding since 2000. Please link the FTE directly to the public law. Additionally, show the status of this FTE today.

See Attachment #1.

Office of the Inspector General - Department of Housing and Urban Development (HUD)

9. Please provide a table showing FTEs hired specifically with supplemental funding since 2000. Please link the FTE directly to the public law. Additionally, show the status of this FTE today.

FTEs hired with supplemental funding

Supplemental Funding FTE	Public Law	FY 2000 Actual	FY 2001 Actual	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006 Actual	FY 2007 Actual	FY 2008 Actual	FY 2009 Actual	FY 2010 Estimate
Emergency Response Fund (post 9-11)	P.L. 107-117	0	0	0	0	0	0	0	0	0	0	0
Hurricane Recovery Supplemental	P.L. 109-234	0	0	0	0	0	0	17	32	33	38	0
Katrina Recovery Supplemental	P.L. 110-28	0	0	0	0	0	0	0	0	0	0	10
American Recovery Act	P.L. 111-5	0	0	0	0	0	0	0	0	0	0	11
Total FTE		0	0	0	0	0	0	0	0	0	0	0

Notes:

1. FTE numbers do not necessarily indicate that we hired that many employees or have that many onboard specifically working on supplemental funding efforts. We track the hours and associated salaries for all employees who dedicate time to work on Disaster-related and Recovery-related efforts. These numbers represent the full time equivalent (FTE) of all added employee hours dedicated to these efforts in a given fiscal year

2. Since FY 2007, we have had 30 dedicated staff on Disaster-related efforts located in New Orleans, and use other staff nationwide as needed for audits/investigations outside the Gulf State region and track their hours. This number is coming down in FY 2010 and forward due to an increased in other activities such as FHA mortgage fraud efforts due to its prime position as a major component of the marketplace (it now has over 70 percent of the mortgage market if you look at new sales and refinances), in reaction to the national economic crisis.

3. For Recovery Act supplemental funding, we have not hired FTE specifically with supplemental funding. We track the hours and associated salaries for all employees involved and who dedicate time of their workload on Recovery Act efforts. Starting in FY 2010 and through 2013, when more of the funds will be expended, our OIG staff workload, and therefore FTE usage in this fund, will increase. We are pacing our expenses to match our workload and future requirements as the oversight of the majority of the work come in approximately 2 years after the funding is expended. We are currently in the midst of our preventative activities as we continue to issue capacity-related audits.

10. **What, if any, distinction exists when hiring employees with regular appropriations act funding versus supplemental funding?**

    There is no distinction on hiring employees with regular appropriations act funding versus supplemental funding. For Recovery Act oversight activities we hired, and are planning on hiring, temporary appointments not to exceed 3 to 4 years.

    For Disaster-related funding, we have funded a fluctuating 30 to 40 FTEs with supplemental funding. This does not necessarily indicate that many employees on board. It could be more with split hours dedicated to Disaster-related oversight as well as other normal business. All charges to the supplemental funds are controlled through the tracking of hours and salary costs to that activity.

11. **What will happen/has happened to supplemental-funded FTEs when the funds are exhausted?**

    Because the 30 FTEs are within our average attrition rate of 50 employees per year, we anticipate we will lose the FTEs through a hiring freeze.

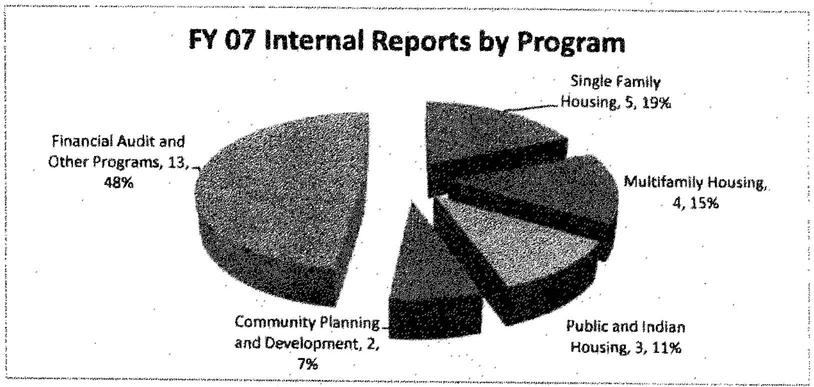
Audit Work

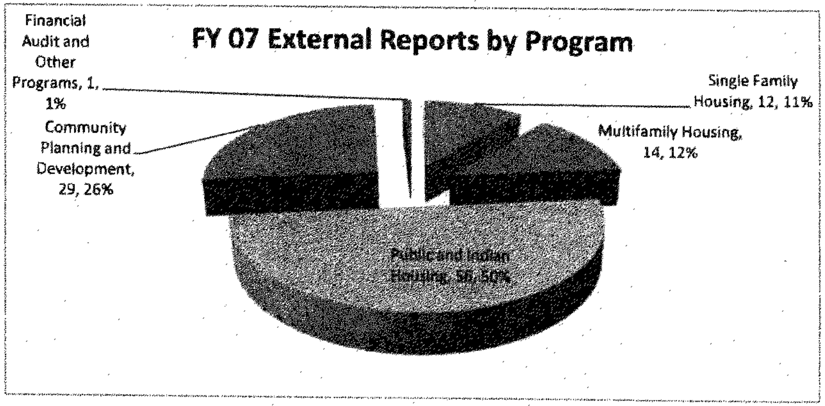
12. **Please provide a pie-chart of internal and external audits issued by subject area for FYs 2007, 2008, 2009, and 2010 (to-date).**

    See Attachment #3.

FY07

Program	Internal	External
Single Family Housing	5	12
Multifamily Housing	4	14
Public and Indian Housing	3	56
Community Planning and Development	2	29
Financial Audit and Other Programs	13	1
Total	27	112


FY 07 Internal Reports by Program


FY 07 External Reports by Program

13. **In the budget, OIG discusses such achievements as "questioned costs" and "recommendations that funds be put to better use." For example, the budget states a total of $1.913 billion as the OIG result for the six months ending March 30, 2009 – composed of the previous two categories as well as recoveries/receivables. What process, if any, is in place that turns these findings into concrete benefits to the public? How does OIG questioning a cost or finding a better use for funds turn into real-world better use of funds? Please include specific examples in your answer.**

The terminology "questioned cost" and "funds be put to better use" are directly from the statutory language in the Inspector General Act of 1978. The Act also requires the Inspector General to provide Congress with a mandatory semiannual report detailing the questions costs and funds to be put to better use. HUD's Audits Management System and policy governing audit resolution within HUD, establishes specific guidance for the processing of all audit recommendations issued by the OIG. When the OIG identifies costs that are questioned or cited as funds to be put to better use, HUD reviews and agrees, or disagrees, with the amounts cited. For amounts the Department agrees with, those costs remain as outstanding balances in the Audit management System (Audit Resolution and Corrective Action Tracking System) until the costs are resolved (in the case of questioned costs) or realized (in the case of funds to be put to better use).

The Department is responsible for the recovery and/or implementation of funds cited in OIG reports. Most cost-related recommendations request that the funds be returned to the specific program -- so that they may be used to serve the individuals that, the funds were intended to serve. HUD has the responsibility to ensure the funds are returned to the program, or may forgive the debt due to the grantee's inability to refund the program. In other cases the funds are due treasury. Again, it is HUD responsibility to collect the funds or make a determination that the grantee cannot repay and forgive the debt. For example, funds returned to a housing authority account will allow more individuals to have access to assistance in receiving, for instance, a Section 8 voucher. for funds to be put to better use, money that is identified in these instances can result in reallocating funds so that future dollars can be more efficiently distributed and more individuals have the potential to be served.

14. **Please provide more details on the $144 million for "Collections from Audit Activities" in the Office of Audit. What is the origin on this money? Who collects it? For what are the funds then used?**

The money cited as "Collections from Audit Activities" is the amount the Department has recovered because of specific audit recommendations. The OIG's recommendations specifically identify the questioned costs and if the costs are due to the program or Treasury. When the Department agrees that monies should be collected, a repayment agreement is often established which may result in payments over a course of time or

HUD may elect to forgive the debt. These monies are recorded as collections in the Audit Resolution and Corrective Action Tracking System and the OIG reports those amounts that are returned during each semiannual reporting cycle to Congress as required. Since most recommendations request that the monies be returned to the program, the majority of the collections are deposited back into the program where it can have an impact on the individuals it was originally intended to assist.

Transportation of Things

15. Please provide the actual costs associated with this account from FY 2005 to present.

FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
$158,130.49	$109,589.98	$98,284.84	$85,115.95	$50,864.80	$19,473.49

16. Please explain this object class in detail.

The cost of transportation of household goods, personal effects, and house trailers of employees transferred from one official duty station to another (i.e., moving our law enforcement special agents). This includes transactions by Government Bills of Lading (GBLs) or reimbursement to employees who arrange for their own move. Where there is authority to pay such costs for certain new appointees from their permanent duty station, these costs should be included under this classification.

Office Locations

17. Please provide a chart showing the location of all HUD OIG FTEs for FY 2010 that includes the number of FTEs at each location. Denote which FTEs are disaster and supplemental-related.

See Attachment #1.

Office of the Inspector General - Department of Housing and Urban Development (HUD)

17. Please provide a chart showing the location of all HUD OIG FTEs for FY 2010 that includes the number of FTEs at each location. Denote which FTEs are disaster and supplemental-related

Location / Duty City	Total FTE	Disaster related FTE	ARRA related FTE
Albany, NY	3		3
Arlington, TX	15	2	2
Atlanta, GA	29		15
Baltimore, MD	21		3
Baton Rouge, LA	3	2	2
Billings, MT	1		
Birmingham, AL	3		2
Boston, MA	25		16
Buffalo, NY	4		2
Chicago, IL	47		16
Cleveland, OH	9		1
Columbia, SC	2		2
Columbus, OH	14		4
Creve Coeur, MO	1		
Denver, CO	15		2
Detroit, MI	19		5
Fort Mcnair, DC	1		
Fort Worth, TX	16	2	8
Grand Rapids, MI	2		
Greensboro, NC	6		3
Hartford, CT	9		6
Hattiesburg, MS	1	1	
Houston, TX	13	1	5
Indianapolis, IN	3		
Jackson, MS	9	2	2
Jacksonville, FL	6		4
Kansas City, KS	21	1	7
Knoxville, TN	6		4
Las Vegas, NV	2		
Little Rock, AR	1		
Los Angeles, CA	40		22
Louisville, KY	2		
Manchester, NH	3		2
Memphis, TN	1		1
Miami, FL	16		10

Minneapolis, MN	3		
Nashville, TN	4		2
New Orleans, LA	19	16	6
New York, NY	41		10
Newark, NJ	15		7
Oklahoma City, OK	8	1	3
Philadelphia, PA	27		12
Phoenix, AZ	9		6
Pittsburgh, PA	6		2
Richmond, VA	7		3
Sacramento, CA	4		
Salt Lake City, UT	2		
San Antonio, TX	8	1	4
San Francisco, CA	11		6
San Juan, PR	9		5
Seattle, WA	20		7
St. Louis, MO	8		4
Tampa, FL	11		4
Washington, DC	177		53

Note:

1. Includes student positions (i.e., student trainees for criminal investigative positions), temporary appointments and vacancies (temporary appointments and backfills) as shown on tab number 3.

18. Please discuss OIG's long-term plans as they relate to disaster recovery locations. Specifically, how long does OIG anticipate continuing there?

This answer depends on how quickly the States expend there remaining disaster funds. At the moment we anticipate our major activity lasting until 2013. If there is residual activity after that we will absorb that costs into our appropriated funding.

For example, while we received no additional funding for our post-September 11th oversight audits, we are still producing audits every six months and there are still HUD-related emergency supplemental funds not spent. Our experience and history with disasters (i.e., Hurricane Andrew in Florida, post-September 11th, etc.) shows that it can take years for the funds to be used and likewise years to audit, investigate and prosecute.

19. Please provide annual data on GSA rental costs for FY 2008 to present separated by location.

See Attachment #1.

Office of the Inspector General - Department of Housing and Urban Development (HUD)

Question #19: Annual data on GSA rental costs for FY 2008 separated by location

Region / Location	City	GSA Yearly Cost	DHS Charges	Total/YR
Headquarters	Washington	$1,397,985.94	$98,311.14	$1,496,297.08
Region 1 - Boston	Boston	$352,325.38	$18,149.78	$370,475.16
Region 1 - Boston	Hartford	$56,551.81	$1,431.37	$57,983.17
Region 1 - Boston	Manchester	$43,670.34	$947.91	$44,618.25
Region 11 - Gulf Coast	Jackson	47065.04	10002.04	57067.08
Region 11 - Gulf Coast	New Orleans	$136,173.96	$8,910.20	$145,084.16
Region 2 - New York	Albany	$12,296.12	$439.70	$12,735.82
Region 2 - New York	Buffalo	$36,299.98	$1,232.34	$37,532.32
Region 2 - New York	New York	$787,217.12	$70,421.49	$857,638.60
Region 2 - New York	Newark	$199,801.57	$3,015.27	$202,816.83
Region 2 - New York	NYC-Parking	$92,164.00	$0.00	$92,164.00
Region 3 - Philadelphia	Baltimore	$248,651.05	$31,800.99	$280,452.05
Region 3 - Philadelphia	Philadelphia	$143,339.18	$6,808.61	$150,147.78
Region 3 - Philadelphia	Pittsburgh	$36,126.10	$911.14	$37,037.24
Region 3 - Philadelphia	Richmond	$55,577.76	$6,654.98	$62,232.73
Region 4 - Atlanta	Atlanta	$291,917.67	$34,730.56	$326,648.23
Region 4 - Atlanta	Greensboro	$42,788.71	$1,389.72	$44,178.43
Region 4 - Atlanta	Jacksonville	$49,869.05	$4,541.24	$54,410.29
Region 4 - Atlanta	Knoxville	$60,793.85	$9,229.33	$70,023.17
Region 4 - Atlanta	Miami	$110,483.78	$36,131.19	$146,614.95
Region 4 - Atlanta	San Juan	$208,257.72	$2,118.12	$210,375.84
Region 4 - Atlanta	Tampa	$28,814.61	$11,009.40	$39,824.02
Region 5 - Chicago	Chicago	$489,394.66	$42,446.70	$531,841.35

Region 5 - Chicago	Cleveland	$57,454.20	$1,852.91	$59,307.11
Region 5 - Chicago	Columbus	$63,082.81	$21,174.88	$84,257.69
Region 5 - Chicago	Detroit	$114,828.42	$12,905.08	$127,733.50
Region 5 - Chicago	Indianapolis	$22,382.62	$1,012.65	$23,395.27
Region 5 - Chicago	Minn-St Paul	$74,061.90	$900.88	$74,962.79
Region 6 - Fort Worth	Arlington	$260,917.93	$4,900.27	$265,818.20
Region 6 - Fort Worth	Fort Worth	$99,383.74	$19,110.43	$118,494.17
Region 6 - Fort Worth	Houston	$81,876.93	$1,914.27	$83,791.20
Region 6 - Fort Worth	Oklahoma City	$74,784.86	$17,487.78	$92,272.64
Region 6 - Fort Worth	San Antonio	$54,954.04	$1,657.34	$56,611.38
Region 7/8 - Kansas City	Billings	$14,325.18	$2,865.96	$17,191.14
Region 7/8 - Kansas City	Denver	$190,174.63	$4,566.11	$194,740.75
Region 7/8 - Kansas City	Kansas City	$162,118.00	$4,899.65	$167,017.64
Region 7/8 - Kansas City	Salt Lake City	$31,206.18	$7,280.88	$38,487.06
Region 7/8 - Kansas City	St Louis	$85,507.10	$19,713.70	$105,220.80
Region 9/10 - Los Angeles	Las Vegas	$17,150.23	$1,732.64	$18,882.87
Region 9/10 - Los Angeles	Los Angeles	$380,447.67	$8,025.73	$388,473.41
Region 9/10 - Los Angeles	Phoenix	$48,369.26	$1,230.82	$49,600.08
Region 9/10 - Los Angeles	Sacramento	$37,178.22	$4,260.36	$41,438.59
Region 9/10 - Los Angeles	San Francisco	$290,752.54	$4,306.88	$295,059.43
Region 9/10 - Los Angeles	Seattle	$208,459.44	$25,567.19	$234,026.63
Total		**$7,296,981**	**$568,000**	**$7,864,981**

Notes:

1. Includes parking listed in an Occupancy Agreement (not OIG centrally funded).
2. Parking is needed for law enforcement vehicles

Insurance Claims and Indemnities

20. Please provide the actual costs associated with this account for FY 2005 to present.

FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010
$189,971.88	$27,404.08	$24,244.22	$889,236.25	$311,919.04	$1,168.96

21. Please provide a detail breakout of these costs of the FY 2009 insurance claims and indemnities.

FY 2009 Claims and Indemnities	
Claims against HUD for Government vehicle accidents:	
Filed and expensed	$28,419.04
Settlements - Judgments Payment No Fear Act:	
Filed and expensed	$283,500.00
Total	**$311,919.04**

*Vehicles are for law enforcement personnel.

Federal Maritime Commission
Fiscal Year 2011 Questions for the Record
Chairman John Olver
Subcommittee on Transportation, Housing and Urban Development, and Related Agencies
House Committee on Appropriations

Funding Level

1. **In table format, please list the total proposed funding for the Federal Maritime Commission (FMC) for Fiscal Year (FY) 2001 through FY 2011 (proposed). In the same table, please list the enacted funding level for the FMC for FY 2000 through FY 2010.**

Fiscal Year	Total Proposed Funding	Enacted Funding
2001	$ 16,222,000	$ 15,466,000
2002	$ 16,458,000	$ 16,447,000
2003	$ 17,440,000	$ 16,591,450
2004	$ 18,471,000	$ 18,362,021
2005	$ 19,496,000	$ 19,340,032
2006	$ 20,499,000	$ 20,294,010
2007	$ 21,474,000	$ 20,427,910
2008	$ 22,322,000	$ 22,072,000
2009	$ 23,953,000	$ 22,800,000
2010	$ 24,558,000	$ 24,135,000
2011	$ 25,498,000	******

Full Time Employees

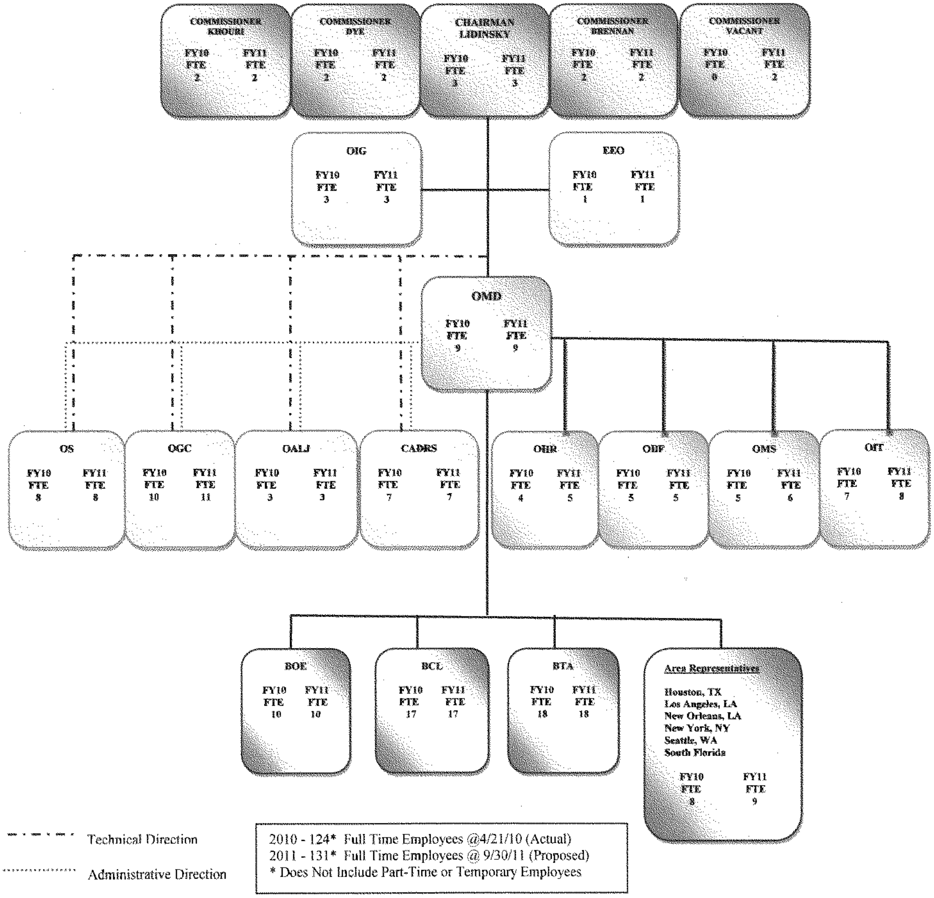
2. **In table format, please list the number of full time employees (FTE) proposed in the Congressional Justification for FY 2001 through FY2011 (proposed). In the same table, please list the actual number of FTEs for the FMC for FY 2001 through FY2011 (proposed).**

Fiscal Year	Total Proposed FTE	Actual FTE
2001	144	121
2002	135	127
2003	132	129
2004	137	129
2005	135	124
2006	133	121
2007	130	119
2008	127	115*
2009	131	122
2010	130	*
2011	131	*

*NOTE: The Actual FTE reported through 2008 reflects Full Time Equivalents. We note that the question refers to full time employees. The FMC expects to end FY 2011 with 131 full time employees and one permanent part-time employee.

3. **Please update the "Organization Chart" on page six of the FMC's Congressional Justification to include FY 2010 actual and FY 2011 proposed full time employees by office. Please make sure this includes any changes as a result of the recent reorganization.**

FEDERAL MARITIME COMMISSION ORGANIZATION CHART



2010 - 124* Full Time Employees @4/21/10 (Actual)
2011 - 131* Full Time Employees @ 9/30/11 (Proposed)
* Does Not Include Part-Time or Temporary Employees

4. **In table format, please list the number of FTE on board for the end of each quarter for FY 2009 and for FY 2010 to date.**

	FY 2009		FY 2010	
	Full Time	Part Time/TEMP	Full Time	Part Time/TEMP
1st Quarter	116	2	123	2
2nd Quarter	118	2	124	1
3rd Quarter	117	8		
4th Quarter	122	2		

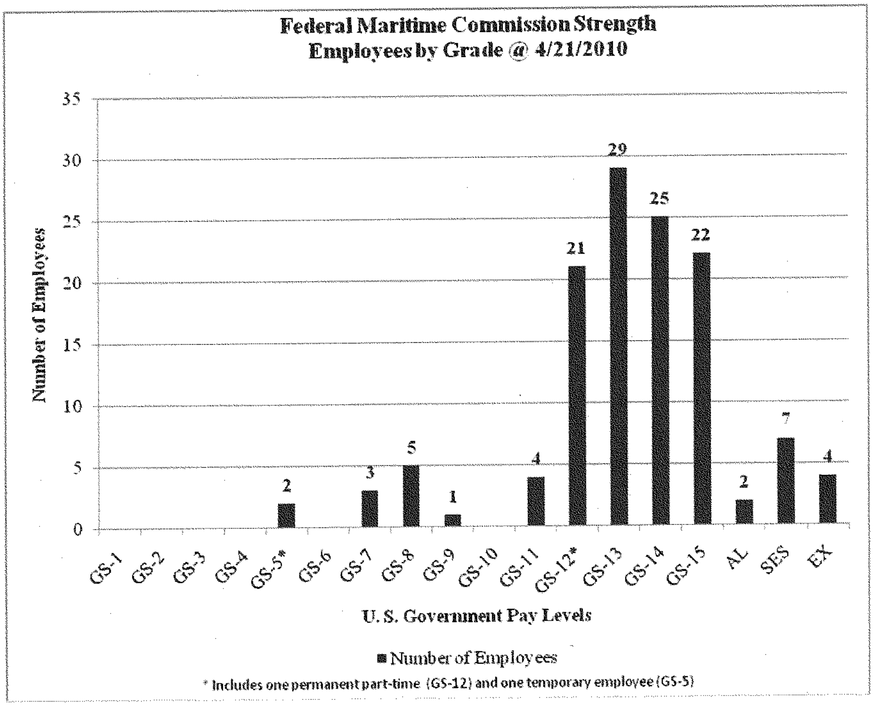
5. **Please list all current vacancies and the corresponding GS level at the FMC. Please indicate whether the vacancy has been announced.**

Office	Position	Grade	Announced Yes/No
Office of the Chairman	Special Assistant to the Chairman	12	*
Office of the Commissioners	Commissioner Counsel to the Commissioner	EX 15	* *
Office of the General Counsel	Attorney	13	Yes
Office of Human Resources	HR Specialist (new hire reports 5/9/10)	9	Yes
Office of Management Services	Administrative Support Assistant	5	No
Los Angeles Office	Assistant Area Representative	13	No

*Pending White House/OPM review and approval and/or congressional review and approval.

Employee Retirements

6. **Please produce a bar graph with number of employees at each U.S. Government pay level for the FMC. The graph should have "number of employees" on the "y axis" and all of the "U.S. Government Pay Levels" (G1-SES) on the "x axis."**



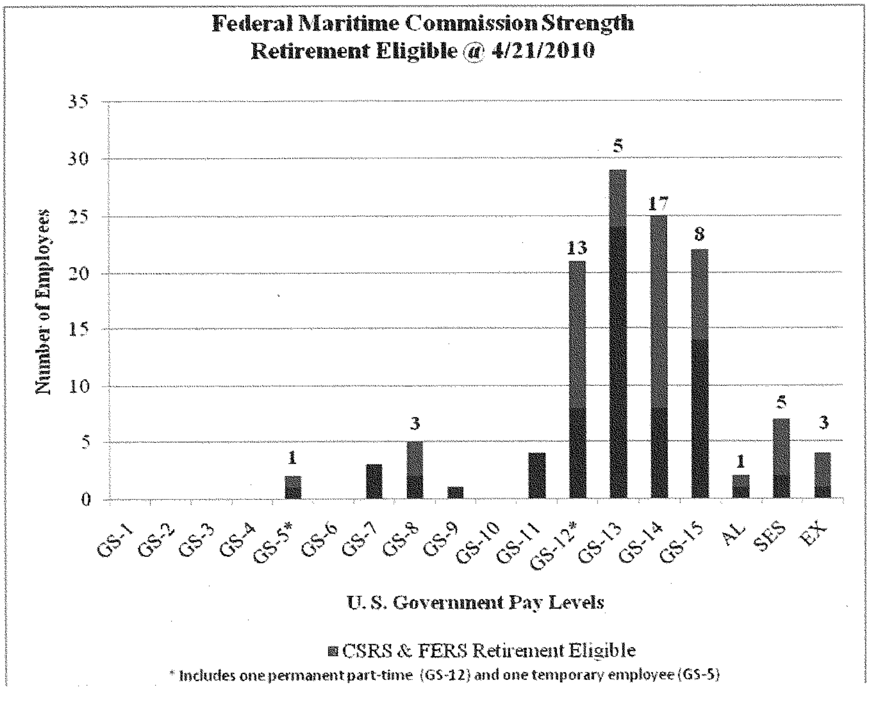
Federal Maritime Commission Strength
Employees by Grade @ 4/21/2010

* Includes one permanent part-time (GS-12) and one temporary employee (GS-5)

7. **Of the FMC's employees that are covered under the Federal Employees Retirement System (FERS), how many will be eligible to retire in 5 years?**

   Eighty-four of the Commission's current 125 employees (67%) are covered under the Federal Employees Retirement System (FERS). As of April 21, 2015, eighteen (21%) of those employees are eligible for retirement. The other forty-one (33%) of the Commission's staff are covered under the Civil Service Retirement System (CSRS). As of April 21, 2015, thirty-eight (93%) of those employees are eligible for retirement. The retirement criteria is different for each system, however, on or before April 21, 2015, fifty-six (45%) of the Commission's current on-board staff are eligible for retirement.

8. **Using the graph developed for question 4, please shade the top portion (if applicable) of the bar a different color for employees eligible to retire within 5 years (i.e. if 25 percent of GS-14s are eligible to retire within five years, shade the top quarter of the bar a different color).**



* Includes one permanent part-time (GS-12) and one temporary employee (GS-5)

Reorganization Plan

9. **In fiscal year 2010, the Committee approved a Reorganization Plan for the FMC. Please describe this reorganization, when it happened, and why it was necessary.**

In December 2009, the Commission requested the Committee's approval of a Reorganization Plan. Our request was approved and became effective on January 31, 2010. The purpose of the reorganization was to establish an organizational structure that will improve the Commission's ability to meet the needs of the shipping public in these trying economic times and to carry out its statutory responsibilities over the ocean shipping industry in a more effective and efficient manner. The Commission's last restructuring occurred in August 2004, and implemented two things: (1) the establishment of an Office of Consumer Affairs and Dispute Resolution Services (CADRS) within the Office of the Secretary, and (2) the creation of an Office of Administration and an Office of Operations in lieu of the Executive Director. The newly proposed reorganization expands on the success of CADRS, while recognizing that the latter change did not achieve the efficiencies and effectiveness contemplated.

Under this reorganization, CADRS was established as an independent office reporting to the Chairman. CADRS has been a resounding success since its establishment in the 2004 restructuring, and has demonstrated the importance of its services to U. S. exporters and importers and the shipping industry. It has been a source for resolving complaints and disputes in the shipping industry through various alternative dispute resolution techniques, and responds to several hundred consumer complaints annually (over 700 in FY 2009), some of which were referred from the Congress. Its staff provides mediation services to enable parties to avoid or minimize litigation delays and expenses, and provides a less adversarial, more cost-effective means of resolving disputes.

CADRS has more day-to-day contacts with the shipping industry than any other Commission component, and its new status as an independent office enables it to more effectively advise the Commission regarding general industry trends and suggest modifications to Commission plans and regulations as needed to keep up with developing trends. Its new status facilitates a close working relationship with Area Representatives and provides greater assurance of impartiality to parties to disputes. It places the status of its mediators on an even par with the Commission's Bureau of Enforcement to facilitate mediation of enforcement matters.

The second leg of this reorganization was the re-establishment of the position of Managing Director. The Commission has functioned as an independent regulatory agency for only 48 years. Until a restructuring in 2004, the Commission had been organized with a Managing Director (or Executive Director) for almost the entire period of its existence. In 2004, the Commission eliminated that structure, and split the responsibilities of its Executive Director into two new organizations: an Office of Administration and an Office of Operations. Unfortunately, that change failed to achieve the efficiencies and effectiveness that was hoped. This change assures even footing and synergism between the Commission's administrative functions and operating programs on a day-to-day basis.

Under the reorganization, the following offices report directly to the Chairman. Historically, those offices reporting to the Chairman receive administrative guidance from the Managing Director.

- Office of the Secretary
- Office of the General Counsel
- Office of the Inspector General
- Office of Equal Employment Opportunity
- Office of Consumer Affairs and Dispute Resolution
- Office of Administrative Law Judges
- Office of the Managing Director

The following components report directly to the Managing Director:

Those offices formerly reporting to the Office of Administration

- Office of Budget and Finance
- Office of Human Resources
- Office of Information Technology
- Office of Management Services

Those organizations formerly reporting to the Office of Operations

- Bureau of Certification and Licensing
- Bureau of Trade Analysis
- Bureau of Enforcement
- Area Representatives

The proposed changes have no impact on either our fiscal year 2010 appropriation or our fiscal year 2011 budget request, as there would be no net increase in positions or programs and no employee would be reduced in grade. Moreover, the reorganization would not eliminate any Commission projects or activities. Rather, the planned restructuring seeks to reallocate our existing resources to maximize the effectiveness of our staff and facilitate our efforts to better serve the ocean transportation industry.

Reports to the Committee

10. **In table format, please list all reports due to the Committee for fiscal year 2010, their delivery dates, and actual delivery dates. For any reports that were late, please explain why the reports were late.**

Report	Due Date	Submission Date
Baseline for Reprogramming and Transfer Authorities (P.L. 111-117)	February 14, 2010	January 14, 2010

Travel

11. **For FY 2009 and FY 2010 to date, please provide a table containing all the travel paid for from the object class "travel."**

Fiscal Year	Travel Cost
FY 2009	**$212,208.86**
FY2010 @ March 31, 2010	**$104,735.78**

12. **Please provide a separate table for FY 2009 and FY 2010. For each trip, please list the name of who traveled, their title, the destination, the purpose of the visit, the total dollar amount used from the account per person, and the total days traveled. Please separate the travel by office.**

Travel Report
FY 2009 @ 9/30/09

Name	Title	Destination	Purpose	Total Expense	Days Traveled
Chairman					
Fitzgibbon, T.	Assistant Secretary	SF-1164	Local Voucher	6.25	
Fitzgibbon, T.	Assistant Secretary	SF-1164	Local Voucher	6.25	
Haywood, A.	Supervisor IT Specialist	SF-1164	Local Voucher	6.25	
Green, L.	Property & Supply Specialist	SF-1164	Local Voucher	6.25	
Lidinsky, R	Chairman	SF-1164	Local Voucher	69.00	
Office of the Commissioners					
Creel, H.	Commissioner	Hollywood, FL	Conference	1,993.71	2
Creel, H.	Commissioner	SF-1164	Local Voucher	29.25	
Creel, H.	Commissioner	SF-1164	Local Voucher	24.25	
Dye, R.	Commissioner	London, GB	Conference	2,720.53	5
Dye, R.	Commissioner	Palm Spring	Conference	1,449.26	4
Office of the Secretary					
Gregory, K.	Secretary	San Diego, CA	Conference	2,097.70	4
Dehoff, J	Information Mgmt Specialist	Kings Point, NY	Training	1,606.05	6

Harris, M	Program Support Specialist	Raleigh, NC	Conference	1,223.70	3
Fitzgibbon, T	Assistant Secretary	SF-1164	Local Voucher	89.30	
Office of Consumer Affairs & Dispute Resolution Services					
Bell, V.	Attorney-Advisor	Boston, MA	Training	561.84	5
Bell, V.	Attorney-Advisor	Orlando, FL	Conference	1,184.82	5
Bell, V.	Attorney-Advisor	Local Voucher	Training	42.25	
Doty, B.	Attorney-Advisor	Kings Point, NY	Training	1,609.35	6
Doty, B.	Attorney-Advisor	Malibu, CA	Training	1,751.59	3
Dike, T.	Attorney-Advisor	New York, NY	Mediation	731.75	1
Murphy, R.	Attorney-Advisor	San Diego, CA	Conference	1,985.70	5
Murphy, R.	Attorney-Advisor	Spokane, WA	Conference	1,702.16	3
Murphy, R.	Attorney-Advisor	Chicago, IL	Conference	1,528.34	2
Murphy, R.	Attorney-Advisor	Irvine, CA	Training	1,456.02	5
Murphy, R.	Attorney-Advisor	Irvine, CA	Training	1,534.20	5
Murphy, R.	Attorney-Advisor	New York, NY	Mediation	1,224.95	1
Murphy, R.	Attorney-Advisor	San Francisco, CA	Conference	1,327.01	4
Delacruz, Z	Trial Attorney	Manhattan, NY	Conference	1,033.85	3
Carr-Notice, P	Transportation Specialist	Orlando, FL	Conference	1,047.23	6
Office of the General Counsel					
Evans, S.	Attorney-Advisor	New Orleans, LA	Conference	1,467.39	5
Streeter, L.	Attorney-Advisor	Vallejo, CA	Conference	1,044.11	2
King, P.	General Counsel	Local Voucher		10.85	
King, P.	General Counsel	Rancho Mirage, CA	Speech	1,740.87	3
Lee, D.	Attorney-Advisor	Miami Beach, FL	Conference	1,228.29	2
Trogdon, B.	Attorney-Advisor	SF-1164	Local Voucher	129.45	
Cinque, C.	Trial Attorney	San Francisco, CA	Conference	1,479.84	2
Reese, S.	Program Assistant	Baltimore, MD	Conference	1,386.00	4
Lee, D.	Special Assistant to the GC	Orlando, FL	Conference	1,444.69	5
Office of Administrative Law Judges					
Hutchins, J.	Office Assistance	Orlando, FL	Conference	1,227.75	5
Guthridge, C.	ALJ	Ocean City, MD	Conference	350.35	3
Office of Equal Employment Opportunity					
Gilmore, K.	EEO Director	Manhattan, NY	Conference	1,172.41	3
Gilmore, K.	EEO Director	New Orleans, LA	Conference	1,109.75	3
Office of the Inspector General					
Trzeciak, A.	Program Manager	Boston, MA	Conference	561.80	6

Trzeciak, A.	Program Manager	Manhattan, NY	Site Visit	1,314.43	4
Trzeciak, A.	Program Manager	Richmond, VA	Conference	722.90	4
Trzeciak, A.	Program Manager	Parkersburg, WV	Audit	698.70	4
Hicks, B.	Auditor	New Orleans, LA	Training	1,283.15	5
Office of Operations					
Dickon, R.	Attorney Advisor	New Orleans, LA	Conduct interviews	1,896.50	2
Dickon, R.	Attorney Advisor	Vancouver, Can	Conference	2,035.86	4
Motor Pool			GSA Leases	30,000.00	
Schmitt, A.	Program Manger	SF-1164	Local Voucher	18.90	
Schmitt, A.	Program Manger	Vancouver, Can	Conference	2,035.86	4
New York Office					
Castellano, J.	Area Representative	SF-1164	Local Voucher	31.25	
Castellano, J.	Area Representative	Washington, DC	Conference	1,723.85	5
Castellano, J.	Area Representative	SF-1164	Local Voucher	31.25	
Mingione, E.	Area Representative	SF-1164	Local Voucher	397.25	
Mingione, E.	Area Representative	Washington, DC	Meeting	227.55	1
Mingione, E.	Area Representative	Washington, DC	Conference	1,693.05	5
Mingione, E.	Area Representative	Washington, DC	Meeting	677.75	2
Mingione, E.	Area Representative	SF-1164	Local Voucher	663.25	
Mingione, E.	Area Representative	SF-1164	Local Voucher	763.25	
New Orleans Office					
Gagnon, S.	Interview	Washington, DC	Interview	2,376.67	2
Kellogg, A.	Area Representative	Dallas, TX	Transition/orientation	1,030.15	3
Kellogg, A.		SF-1164	Local Voucher	28.00	
Johnson, B.	Area Representative	Dallas, TX	Conduct Investigation	773.05	3
Johnson, B.	Area Representative	Houston, TX	Service Contract Audit	946.00	4
Johnson, B.	Area Representative	Houston, TX	Service Contract Audit	550.00	4
Johnson, B.	Area Representative	Point Clear, AL	Conference	1,061.72	4
Johnson, B.	Area Representative	Memphis, TN	Outreach	1,489.60	5
Johnson, B.	Area Representative	Washington, DC	Transition and orientation	2,132.05	3
South Florida Office					
Mintz, E.	Area Representative	New Orleans, LA	Conference	1,488.60	4
Mintz, E.	Area Representative	Tampa, FL	Speech	750.38	3
Mintz, E.	Area Representative	Tampa, FL	Speech/Meeting	716.05	3
Mintz, E.	Area Representative	Atlanta, GA	Liaison/Meeting	1,128.28	4
Mintz, E.	Area Representative	Washington, DC	Conference	2,086.05	8
Mintz, E.	Area Representative	Atlanta, GA	Conduct Investigation	1,674.10	5

Mintz, E.	Area Representative	San Juan Bay	Liaison/Meeting	2,244.81	4
Mintz, E.	Area Representative	Charleston, SC	Site Visit	1,466.25	1
Mintz, E.	Area Representative	SF-1164	Local Voucher	49.32	
Mintz, E.	Area Representative	SF-1164	Local Voucher	19.98	
Margolis, A.	Area Representative	Chicago, IL	Conduct Investigation	2,111.52	6
Margolis, A.	Area Representative	Tampa, FL	Conduct Investigation	1,395.88	6
Margolis, A.	Area Representative	Jacksonville, FL	Conduct Investigation	1,422.40	6
Margolis, A.	Area Representative	Tampa, FL	Conduct Investigation	1,070.87	4
Margolis, A.	Area Representative	Chicago, IL	Conduct Investigation	2,198.10	6
Margolis, A.	Area Representative	Newark, NJ	Settlement Agreement	898.55	8
Margolis, A.	Area Representative	Washington, DC	Conference	2,052.00	5
Los Angeles Office					
Clark, O.	Area Representative	San Diego, CA	WESCCON Conference	894.50	5
Clark, O.	Area Representative	San Diego, CA	Conduct Investigation	777.50	3
Clark, O.	Area Representative	Palm Spring, CA	Conference	846.12	5
Clark, O.	Area Representative	Port Hueneme, CA	Site Visit	2,475.53	3
Clark, O.	Area Representative	Washington, DC	Conference	2,066.70	5
Clark, O.	Area Representative	Local Voucher		217.75	
Clark, O.	Area Representative	San Francisco, CA	Conduct investigations	607.50	1
Clark, O.	Area Representative	Las Vegas, NV	Site Visit	608.50	3
Houston Office					
Zezima, D.	Area Representative	New Orleans, LA	Conference	772.45	4
Zezima, D.	Area Representative	Dallas, TX	Conduct investigations	428.55	3
Zezima, D.	Area Representative	Dallas, TX	Conduct investigations	221.00	2
Zezima, D.	Area Representative	Washington, DC	Conference	2,524.65	5
Seattle Office					
Moneck, M.	Area Representative	San Diego, CA	WESCCON Conference	1,020.60	5
Moneck, M.	Area Representative	Vancouver, Can	Speech	148.64	1
Moneck, M.	Area Representative	SF-1164	Local Voucher	538.35	
Moneck, M.	Area Representative	SF-1164	Local Voucher	470.28	
Moneck, M.	Area Representative	Portland, OR	Speech	201.60	1
Moneck, M.	Area Representative	Los Angeles, CA	Conduct Investigation	522.03	2
Moneck, M.	Area Representative	Washington, DC	Conference	2,038.25	5
	Area Representative				

Bureau of Trade Analysis					
Carr, F.	Program Manager	London, GB	Conference	2,956.29	5
Carr, F.	Program Manager	Norfolk, VA	Outreach/Research	630.50	3
Fenneman, R.	Program Manager	Los Angeles, CA	Conference	1,095.05	4
Fenneman, R.	Program Manager	Vancouver, CA	Conference	2,035.86	4
Raedeke, M.	Processing Assistance	SF-1164	Local Voucher	21.75	
Raedeke, M.	Processing Assistance	SF-1164	Local Voucher	31.75	
Guthrie, J.	Industry Analyst	New Port Beach	Conference	1,578.24	5
Guthrie, J.	Industry Analyst	Philadelphia, PA	Outreach/Research	905.75	4
Gaidurgis, A	Industry Economist	Miami, FL	Outreach/Research	1,229.20	4
Johnson, J.	Industry Economist	Philadelphia, PA	Outreach/Research	853.75	3
Shafer, S.	Industry Economist	Elizabeth, NJ	Training	651.26	3
Worden, E.	Industry Economist	San Francisco, CA	Conference	1,343.83	6
Worden, E.	Industry Economist	Long Beach, CA	Training	1,581.70	10
Hall, M.	Transportation Specialist	Miami, FL	Outreach/Research	1,444.52	4
Blair, R.	Industry Economist	Norfolk, VA	Outreach/Research	673.35	3
	Industry Economist				
Bureau of Certification & Licensing					
Bernholz, E.	Director	San Francisco, CA	Annual Convention	1,896.88	5
Bernholz, E.	Director	Miami, FL	Conference	1,642.40	6
Danoff, S	Industry Analyst	SF-1164	Local Voucher	21.25	
Hoang, M.	Trial Attorney	San Diego, CA	Conference	1,319.50	7
Hoang, M.	Trial Attorney	SF-1164	Local Voucher	88.84	
Hoang, M.	Trial Attorney	Denver, CO	Speaker	1,172.07	3
Hoang, M.	Trial Attorney	SF-1164	Local Voucher	42.85	
Hoang, M.	Trial Attorney	Philadelphia, PA	Meeting	111.50	1
Howard, E.	Transportation Specialist	SF-1164	Local Voucher	29.70	
Podlaskowich, R.	Supervisory Transportation Specialist	San Diego, CA	Conference	2,155.02	5
Johnson, J.	Special Assistant	New Orleans, LA	Conference	1,329.75	6
Johnson, J.	Special Assistant	Miami, FL	Site visit	1,658.75	6
Johnson, J.	Special Assistant	Seattle, WA	Site visit	2,560.79	6
Johnson, J.	Special Assistant	Seattle, WA	Site visit	853.75	3
Sinko, A.	Industry Analyst	Miami, FL	Site visit	1,747.61	6
Singletary, T.	Senior Industry Analyst	Seattle, WA	Site visit	1,979.70	6
Kusumoto, S.	Program Manager	Seattle, WA	Site visit	1,988.70	6
Kusumoto, S.	Program Manager	SF-1164	Local Voucher	18.25	
Bureau of Enforcement					
Hill, V.	Supervisory Trail Attorney	New Orleans, LA	Interview	1,253.20	2
Hill, V.	Supervisory Trail Attorney	San Diego, CA	Conference	2,353.07	5
Hill, V.	Supervisory Trail Attorney	Long Beach, Ca	Conference	2,109.46	7
Hill, V.	Supervisory Trail Attorney	Los Angeles, CA	Meeting	1,286.63	4
Hill, V.	Supervisory Trail Attorney	Manhattan, NY	Compromise Discussions	451.50	1
Hill, V.	Supervisory Trail Attorney	SF-1164	Local Voucher	31.25	
Nielsen, T.	Trial Attorney	Philadelphia, PA	Depositions	314.03	1
Nielsen, T.	Trial Attorney	SF-1164	Local Voucher	52.50	

Nielsen, T.	Trial Attorney	Atlanta, GA	Conduct Investigation	743.29	3
Berestov, Y.	Trial Attorney	Philadelphia, PA	Attend depositions	319.00	1
Carey, J.	Spec. Assist. For Investigative Activities	Chicago, IL	Conduct Investigation	1,848.70	6
Carey, J.	Spec. Assist. For Investigative Activities	Los Angeles, CA	Conduct Investigation	1,956.01	6
Carey, J.	Spec. Assist. For Investigative Activities	Atlanta, GA	Conduct Investigation	949.14	3
Carey, J.	Spec. Assist. For Investigative Activities	Chicago, IL	Conduct Investigation	1,759.60	6
Carey, J.	Spec. Assist. For Investigative Activities	Local Voucher		295.45	
Carey, J.	Spec. Assist. For Investigative Activities	Boston, MA	Conduct Investigation		6
Carey, J.	Spec. Assist. For Investigative Activities	SF-1164	Local Voucher	103.35	
Carey, J.	Spec. Assist. For Investigative Activities	SF-1164	Local Voucher	168.70	
Carey, J.	Spec. Assist. For Investigative Activities	Philadelphia, PA	Depositions	276.50	1
Carley, M.	Area Representative	Jamaica, NY	Conduct Investigation	754.26	2
Holland, E.	Trial Attorney	Philadelphia, PA	Attend depositions	290.68	1
Holland, E.	Trial Attorney	Charleston, SC	Site Visit	1,195.68	1
Keohan, C.	Trial Attorney	Philadelphia, PA	Depositions	334.31	1
Keohan, C.	Trial Attorney	Boston, MA	Conduct Investigation	1,440.59	5
Troiano, B.	Trial Attorney	Philadelphia, PA	Depositions	264.25	1
Quadrion, G.	Trial Attorney	Philadelphia, PA	Depositions	346.75	1
Quadrion, G.	Trial Attorney	Denver, CO	Speech	1,022.11	7
Quadrion, G.	Trial Attorney	SF-1164	Local Voucher	90.25	
Office of Administration					
Gregory, J.	Executive Assistance	SF-1164	Local Voucher	17.75	
Office of Information Technology					
Pitts, W.	Telecommunications Specialist	Houston, TX	IT Tech Support	1,784.16	4
Office of Human Resources					
McPherson, M.	Human Resources Specialist	Williamsburg, VA	Conference	198.20	4
Kaplan, D.	Human Resources Specialist	Miami, FL	Conference	1,627.55	7
Charbonneau, H.	Director of Human Resources	SF-1164	Local Voucher	93.50	

Charbonneau, H.	Director of Human Resources	Shepherdstown, WV	Conference	109.54	3
Fisher, W.	Human Resources Specialist	Baltimore, MD	Conference	894.48	3
Office of Financial Management					
Ballard, L.	Financial Specialist	SF-1164	Local Voucher	18.25	
Davis, J.	Financial Specialist	SF-1164	Local Voucher	18.25	
Avarianis, M.	Budget Technician	SF-1164	Local Voucher	14.05	
Avarianis, M.	Budget Technician	SF-1164	Local Voucher	31.10	
McIlwain, L.	Financial Specialist	SF-1164	Local Voucher	38.82	
Douglass, K.	Financial Manager	SF-1164	Local Voucher	55.85	
Office of Management Services					
Story, D.	Management Analyst	Houston, TX	Oversee office move	1,650.90	5
Story, D.	Management Analyst	Seattle, WA	Oversee office move	2,404.20	4
Story, D.	Management Analyst	Seattle, WA	Space options for New Area Rep.	1,683.90	7
Metro fare cards	Smart Card for local travel	Metro fare cards		750.00	
Total				**$212,208.86**	**545**

Travel Report
FY 2010 @ March 31, 2010

Name	Title	Destination	Purpose	Total Expense	Days Traveled
Chairman					
Lidinsky, R.	Chairman	New York, NY	Conference	531.20	4
Lidinsky, R.	Chairman	Orlando, FL	Speech	1,033.50	3
Lidinsky, R.	Chairman	New York, NY/CA	Conference	1,838.43	6
Lidinsky, R.	Chairman	SF-1164	Local Voucher	121.00	
Green, L.	Property & Supply Specialist	SF-1164	Local Voucher	6.25	
Office of the Commissioners					
Khouri, M.	Commissioner	London, GB	Conference	2,377.45	4
Khouri, M.	Commissioner	Washington, DC	Relocation	220.05	
Dye, R.	Commissioner	Boston, MA	Training	594.87	7
Dye, R.	Commissioner	SF-1164	Local Voucher	49.25	
Dye, R.	Commissioner	SF-1164	Local Voucher	54.25	
Office of the Secretary					
Fitzgibbon, T.	Assistant Secretary	SF-1164	Local Voucher	127.25	
Office of Consumer Affairs & Dispute Resolution Services					
Murphy, R.	Attorney Advisor	Palm Springs, CA	Conference	2,283.76	5
De La Cruz, Z.	Trial Attorney	Los Angeles, CA	Conference	1,279.25	5
Nielsen, T.	Attorney Advisor	SF-1164	Local Voucher	60.25	
Hill, V.	Attorney Advisor	SF-1164	Local Voucher	111.25	
Office of the General Counsel					
King, P.	General Counsel	Anaheim, CA	Meeting	1,792.48	4
Cinque, C.	Trial Attorney	SF-1164	Local Voucher	6.25	
Wood, T.	Attorney Advisor	Tucson, AZ	Convention	1,951.99	3
Streeter, L.	Attorney Advisor	Chicago, IL	Conference	963.75	3
Office of Equal Employment Opportunity					
Gilmore, K.	Director of EEO	Manhattan, NY	Conference	1,180.25	5
Office of the Inspector General					
Hicks, B.	Auditor	SF-1164	Local Voucher	52.75	

Office of the Managing Director					
Murphy, R.	Program Manager	SF-1164	Local Voucher	37.25	
Carr, F.	Program Manager	London, GB	Conference	3,023.50	7
Office of Information Technology					
Pitts, W.	Telecommunications Specialist	SF-1164	Local Voucher	14.25	
Francis, G.	Information Technology Specialist	New Orleans, LA	Tech Support	883.00	6
Motor Pool			GSA Leases	30,000.00	
New York Office					
Castellano, J.	Area Representative	Washington, DC	Conference	1,512.31	4
Castellano, J.	Area Representative	SF-1164	Local Voucher	31.25	
Mingone, E.	Area Representative	Washington, DC	Conference	731.33	4
Mingone, E.	Area Representative	SF-1164	Local Voucher	690.25	
New Orleans Office					
Johnson, B.	Area Representative	Houston, TX	Investigation	616.00	5
Johnson, B.	Area Representative	Washington, DC	Conference	1,770.31	4
Johnson, B.	Area Representative	San Antonio, TX	Conference	2,043.65	4
Johnson, B.	Area Representative	SF-1164	Local Voucher	40.25	
South Florida office					
Margolis, A.	Area Representative	Tampa, FL	Conduct Investigation	1,443.28	6
Margolis, A.	Area Representative	Washington, DC	Conference	1,502.06	4
Margolis, A.	Area Representative	Orlando, FL	Conference	1,048.30	4
Mintz, E.	Area Representative	New Orleans, LA	Conference	1,768.15	6
Mintz, E.	Area Representative	Atlanta, GA	Conduct Investigation	1,423.86	5
Mintz, E.	Area Representative	Washington, DC	Conference	2,026.33	5
Mintz, E.	Area Representative	SF-1164	Local Voucher	57.50	
Los Angeles Office					
Clark, O.	Area Representative	Palm Springs, CA	Conference	884.08	5
Clark, O.	Area Representative	San Francisco, CA	Conduct Investigation	1,118.80	3
Clark, O.	Area Representative	San Diego, CA	Conference	306.65	4
Clark, O.	Area Representative	Washington, DC	Conference	2,081.08	4
Clark, O.	Area Representative	San Diego, CA	Conduct Investigation	529.75	2
Clark, O.	Area Representative	San Francisco, CA	Conduct Hearing	1,598.70	5
Houston Office					
Zezima, D.	Area Representative	SF-1164	Local Voucher	6.25	
Zezima, D.	Area Representative	Los Angeles, CA	Conduct Investigation	1,226.75	3

Zezima, D.	Area Representative	Washington, DC	Conference	1,287.01	4
Zezima, D.	Area Representative	San Antonio, TX	Conference	1,310.50	4
Zezima, D.	Area Representative	Dallas, TX	Site visit	66.75	1
Seattle Office					
Moneck, M.	Area Representative	Palm Springs, CA	Conference	1,323.53	5
Moneck, M.	Area Representative	Washington, DC	Conference	1,941.23	4
Bureau of Trade Analysis					
Guthrie, J.	Senior Industry Analyst	Jersey City, NJ	Conference	1,636.12	4
Gaidurgis, A.	Industry Analyst	Miami, FL	Conference	1,225.95	4
Johnson, J.	Industry Economist	SF-1164	Local Voucher	17.25	
Carr, F.	Program Manager	SF-1164	Local Voucher	16.25	
Worden, E.	Industry Economist	Long Beach, CA	Conference and Meeting	1,224.75	10
Doughty, K.	Industry Analyst	Long Beach, CA	Conference	1,242.15	5
Pearson, R.	Program Manager	San Antonio	Conference	1,475.15	4
Pearson, R.	Program Manager	SF-1164	Local Voucher	56.25	
Schmitt, A.	Program Manager	SF-1164	Local Voucher	26.25	
Bureau of Certification & Licensing					
Danoff, S.	Industry Analyst	Houston, TX	Training	1,255.26	2
Sanders, J.	Industry Analyst	Miami, FL	Conference	1,234.45	4
Podlaskowich, R.	Supervisory Transportation Specialist	Miami, FL	Conference	1,540.43	4
Podlaskowich, R.	Supervisory Transportation Specialist	San Antonio	Conference	1,970.65	5
Nussbaumer, J.	Supervisory Industry Analyst	SF-1164	Local Voucher	42.25	
Nussbaumer, J.	Supervisory Industry Analyst	Miami, FL	Conference	1,743.25	4
Nussbaumer, J.	Supervisory Industry Analyst	Tampa, FL	Convention	1,444.65	6
Bureau of Enforcement					
Hill, V.	Supervisory Trial Attorney	Palm Springs, CA	Conference	1,482.35	5
Hill, V.	Supervisory Trial Attorney	Manhattan, NY	Conference	246.50	5
Hill, V.	Supervisory Trial Attorney	San Antonio	Conference	1,955.74	5
Cinque, C.	Trial Attorney	San Diego, CA	Conference	1,367.15	4
Carey, J.	Special Asst. for Investigative Activities	Los Angeles, CA	Investigation	1,166.94	3
Troiano, B.	Trial Attorney	Portland, OR	Conference	1,386.65	3
Total				**$104,735.78**	**239**

Awards

13. In table format, please list the dollar amount requested in the Congressional Justification for "Awards" for FY 2001 through FY 2011. In the same table, please list the actual funding level for "Awards" for FY 2001 through FY 2011.

Awards Funding		
Fiscal Year	**Congressional Request**	**Actual Funding Level**
FY 2001	$ -	$ 215,000
FY 2002	$ -	$ 342,000
FY 2003	$ -	$ 305,000
FY 2004	$ -	$ -
FY 2005	$ -	$ 553,000
FY 2006	$ -	$ 435,000
FY 2007	$ -	$ 374,000
FY 2008	$ -	$ 421,571
FY 2009	$ -	$ 299,873
FY 2010	$ -	$ *
FY 2011	$ -	$ *

14. In FY 2009, the FMC spent $299,223 on awards. This despite the fact that the FY 2009 Congressional Justification requested no funding for awards. Please provide a breakdown of the awards in table format showing the title of the recipient, GS-level, dollar amount received, and the detailed reason for the award for all $299,223. Please also indicate when the Committee was notified of the FMC's plan to deviate from the budget request.

The Commission utilizes awards as one means to retain and reward its staff for conducting the agency's numerous statutorily mandated programs. Each year in its initial funding request to OMB, the Commission includes funds for awards. Generally, such funding does not survive the passback process. Thus, when we submit our funding request to Congress, the Commission usually does not include funds for awards.

In FY 2009, the Commission did not notify the Committee of its intention to issue performance awards, as funding was accomplished with savings that accrued in the personal services category. House Report language indicated that the Commission's funding for awards was limited to $300,000; the limitation was not exceeded.

NOTE: The Commission actually spent $299,873 for performance awards in FY 2009. This is a correction to the previously reported amount.

Title	GS Level	Amount	Reason
Program Assistant (Typing)	8	$1,400.00	Performance Award FY09
Project Specialist	13	$1,072.00	Performance Award FY09
Information Technology Specialist (Network)	13	$2,500.00	Performance Award FY09
Financial Specialist	13	$2,200.00	Performance Award FY09
Attorney Advisor General	14	$2,544.00	Performance Award FY09
Trial Attorney (General)	15	$2,500.00	Performance Award FY09
Industry Economist	14	$2,200.00	Performance Award FY09
Transportation Specialist	13	$2,103.00	Performance Award FY09
Spec. Assist. for Investigative Activities	15	$2,500.00	Performance Award FY09
Area Representative (HQ)	14	$2,500.00	Performance Award FY09
Program Manager	ES	$7,925.00	Performance Award FY09
Transportation Specialist	12	$1,750.00	Performance Award FY09
Area Representative (New York, NY)	14	$2,000.00	Performance Award FY09
Director Human Resources	14	$4,242.00	Performance Award FY09
Information Processing Assistant (Typing)	8	$745.00	Performance Award FY09
Trial Attorney General	14	$1,850.00	Performance Award FY09
Area Representative (Los Angeles, CA)	14	$3,000.00	Performance Award FY09
Information Processing Assistant	7	$750.00	Performance Award FY09
Administrative Assistant	12	$2,401.00	Performance Award FY09
Industry Analyst	11	$854.00	Performance Award FY09
Program Assistant (Typing)	8	$1,500.00	Performance Award FY09
Information Technology Specialist	12	$1,700.00	Performance Award FY09
Trial Attorney General	14	$3,051.00	Performance Award FY09
Information Management Specialist	13	$1,000.00	Performance Award FY09
Attorney Advisor (Deputy)	15	$3,303.00	Performance Award FY09
Attorney Advisor General	14	$3,144.00	Performance Award FY09
Attorney Advisor General	13	$1,700.00	Performance Award FY09
Industry Analyst	12	$1,400.00	Performance Award FY09
Financial Manager	14	$4,242.00	Performance Award FY09

Attorney Advisor General	14	$1,850.00	Performance Award FY09
Program Manager, Deputy Director	15	$4,050.00	Performance Award FY09
Human Resources Specialist	12	$1,400.00	Performance Award FY09
Assistant Secretary	14	$3,081.00	Performance Award FY09
Information Technology Specialist	13	$1,700.00	Performance Award FY09
Industry Economist	13	$1,700.00	Performance Award FY09
Director of EEO	14	$3,018.00	Performance Award FY09
Legal Assistant	8	$593.00	Performance Award FY09
Support Services Specialist	12	$2,300.00	Performance Award FY09
Secretary	ES	$7,925.00	Performance Award FY09
Executive Assistant	13	$2,600.00	Performance Award FY09
Transportation Specialist	12	$1,500.00	Performance Award FY09
Industry Analyst	12	$2,200.00	Performance Award FY09
Program Support Specialist (PT)	12	$1,500.00	Performance Award FY09
Transportation Specialist	12	$2,000.00	Performance Award FY09
Program Support Specialist	11	$1,300.00	Performance Award FY09
Information Processing Assistant (Typing)	7	$900.00	Performance Award FY09
IT Specialist, Supervisory	15	$6,645.00	Performance Award FY09
Auditor	14	$2,554.00	Performance Award FY09
Supervisory Trial Attorney (Dir)	ES	$7,925.00	Performance Award FY09
Trial Attorney (General)	14	$3,251.00	Performance Award FY09
Trial Attorney (General)	15	$2,500.00	Performance Award FY09
Supervisory Transportation Specialist	14	$4,000.00	Performance Award FY09
Transportation Specialist	12	$1,296.00	Performance Award FY09
Senior Industry Analyst	13	$2,515.00	Performance Award FY09
Office Assistant	8	$1,238.00	Performance Award FY09
Area Representative (New Orleans, LA)	14	$1,900.00	Performance Award FY09
Industry Economist	13	$2,100.00	Performance Award FY09
Special Assistant	14	$4,059.00	Performance Award FY09
Information Technology Specialist	12	$1,700.00	Performance Award FY09
Human Resources Specialist	12	$2,500.00	Performance Award FY09
Information Technology Specialist	13	$1,700.00	Performance Award FY09
Trial Attorney (General)	13	$2,000.00	Performance Award FY09
Special Assistant to the Director	14	$2,350.00	Performance Award FY09
Support Services Supervisor	14	$4,258.00	Performance Award FY09
Industry Analyst	11	$854.00	Performance Award FY09
Program Manager	ES	$7,925.00	Performance Award FY09
Counsel to the Commissioner	15	$9,095.00	Performance Award FY08 & FY09
Special Assistant to the GC	13	$2,850.00	Performance Award FY09
Attorney Advisor General	13	$1,850.00	Performance Award FY09
Area Representative (South Florida)	14	$3,000.00	Performance Award FY09

Management Analyst	13	$2,500.00	Performance Award FY09
Human Resources Specialist	13	$2,200.00	Performance Award FY09
Attorney Advisor General	15	$6,000.00	Performance Award FY08
Area Representative (New York, NY)	14	$3,000.00	Performance Award FY09
Area Representative (South Florida)	14	$2,550.00	Performance Award FY09
Area Representative (Seattle, WA)	14	$3,000.00	Performance Award FY09
Attorney-Advisor	15	$4,200.00	Performance Award FY09
Transportation Specialist	12	$2,000.00	Performance Award FY09
Counsel to the Commissioner	15	$9,095.00	Performance Award FY08 & FY09
Trial Attorney (General)	13	$2,100.00	Performance Award FY09
Special Assistant to the Deputy Director	14	$1,500.00	Performance Award FY09
Industry Economist	15	$4,000.00	Performance Award FY09
Supervisory Transportation Specialist	14	$3,797.00	Performance Award FY09
Telecommunications Specialist	13	$2,600.00	Performance Award FY09
Trial Attorney (Deputy)	15	$3,500.00	Performance Award FY09
Processing Assistant	7	$1,000.00	Performance Award FY09
Program Assistant	12	$1,850.00	Performance Award FY09
Industry Analyst	12	$1,194.00	Performance Award FY09
Program Manager	ES	$7,925.00	Performance Award FY09
Paralegal Specialist	12	$1,744.00	Performance Award FY09
Industry Economist	13	$2,200.00	Performance Award FY09
Administrative Support Clerk	7	$800.00	Performance Award FY09
Industry Analyst	13	$2,605.00	Performance Award FY09
Transportation Specialist	12	$2,368.00	Performance Award FY09
Senior Industry Analyst	13	$2,515.00	Performance Award FY09
Industry Analyst	11	$854.00	Performance Award FY09
Management Analyst	13	$1,900.00	Performance Award FY09
Attorney Advisor General	15	$8,850.00	Performance Award FY08 & FY09
Program Support Specialist	12	$1,900.00	Performance Award FY09
Trial Attorney (General)	15	$2,500.00	Performance Award FY09
Attorney Advisor General	15	$2,850.00	Performance Award FY09
Program Support Specialist	11	$1,500.00	Performance Award FY09
Program Support Specialist	12	$2,000.00	Performance Award FY09
Librarian	12	$2,701.00	Performance Award FY09
Senior Transportation Specialist	13	$2,921.00	Performance Award FY09
IT Security Officer	14	$3,796.00	Performance Award FY09
Industry Economist	13	$2,100.00	Performance Award FY09
Area Representative (Houston, TX)	14	$2,000.00	Performance Award FY09
Total Awards		**$299,873.00**	

Equipment

15. In table format, please list the dollar amount requested in the Congressional Justification for "Equipment" for FY 2001 through FY 2011. In the same table, please list the actual funding level for "Equipment" for FY 2001 through FY 2011.

Fiscal Year	**Furniture/Equipment Funding Requested**	**Actual Funding Level**
2001	$86,000.00	$867,000.00
2002	$205,000.00	$200,000.00
2003	$70,000.00	$107,000.00
2004	$30,000.00	$386,000.00
2005	$0.00	$45,000.00
2006	$0.00	$238,000.00
2007	$0.00	$522,964.00
2008	$0.00	$169,915.00
2009	$0.00	$935,245.00
2010	$21,000.00	*
2011	$104,000.00	*

16. Please explain any differences between the requested funding and the actual dollar amount spent.

Each year in its initial funding request to OMB, the Commission includes funding for furniture and equipment. Often, such funding does not survive the passback process, as more pressing needs must take precedence within the funding level provided; furniture and equipment funding is typically only considered should savings materialize during a fiscal year. Thus, when we submit our funding request to Congress, the Commission usually can not include much funding for furniture and equipment.

During a fiscal year certain funds become available which had been budgeted but not expended (e.g., actual commercial and/or government contractual costs are lower than the amounts budgeted). Also during a fiscal year, previously unidentified requirements and unmet needs are identified for which savings could be spent. The Commission considers how best to address the needs of the agency with such accumulated savings. These changes range from absorption of continuing resolutions, staff turnover, new statutory mandates or Inspector General corrective action recommendations, newly identified requirements, savings in certain areas of the budget which allow for certain needed expenditures to be addressed which had not been budgeted for earlier, actual versus projected contracting costs. In any given fiscal year, there is usually a combination of factors which impact spending decisions and the amount of funding dedicated to specific items in a budget.

In FY 2001, the Commission used unanticipated savings to purchase computer hardware and software upgrades and a new agency-wide telephone system. Additionally in FY 2001, the Commission advised the House Appropriations Subcommittee that we intended to reprogram $210,000 from salaries and travel to improve its automated systems. The Subcommittee Chairman, Frank Wolf, advised that he had no objection to the use of the funds.

In FY 2004, the Commission was able to utilize savings to lease/purchase new desktop computers for all agency staff and new laptops for our senior managers and area representatives, in addition to new servers and an e-mail system upgrade.

Further, in FY 2006 the Commission used savings to make its final lease payment on the desktops purchased in FY 2004 and to purchase additional laptops, scanners, telecommunication equipment and servers, security-related software and equipment and some replacement furniture and equipment for various bureaus/offices.

In FY 2007, the Commission used some of its savings to acquire equipment necessary for agency database expansion projects, purchase upgraded computer monitors, replacement/upgraded servers and software, some replacement furniture and equipment for various bureaus/offices, and procured equipment required for IPv6 implementation and replacement of mass production copiers.

In FY 2008, savings were used to procure additional upgraded computer hardware, replacement/upgraded servers and security-related software, and some replacement furniture and equipment for various bureaus and offices.

In FY 2009, the Commission was able to utilize savings to purchase an Enterprise Content Management System and other technology enhancements. Replacement furniture and equipment was also acquired for some of the agency's bureaus and offices.

It should be noted that savings accrued in many of these years as a result of extended periods of time when unanticipated Chairman and Commissioner vacancies existed. The filling of these vacancies is beyond the control of the Commission, nonetheless we must budget, and plan for, a full complement of Presidential appointees and their attendant staff.

The Commission constantly reviews and addresses needs to ensure funds are expended to support and further the agency's statutorily mandated programs efficiently and effectively. Outside financial audits conducted under the auspices of the agency's Inspector General have confirmed that the Commission is a good caretaker of taxpayer money, as the agency has an unbroken string of unqualified opinions.

17. In FY 2009, no funding was requested for equipment and the actual cost conveyed to the Committee in the FY 2011 request was $935,244.75. Please document when information regarding this deviation was transmitted to the Committee. Please include what information was transmitted.

The Commission's initial FY 2009 Congressional budget request did not include funding for furniture and equipment, as the funding did not survive the passback process. In April 2009, the Committee was advised (through reporting requirements within P.L. 111-8) of the Commission's intent to spend $263,000 for equipment. The additional $672,000 to fund the furniture and equipment came from unspent funding in personal services of $385,000 due to unfilled Presidential appointees and staff positions. Additionally, unspent travel funds of $25,000, also related to vacant staff positions, was shifted to furniture and equipment funding. Further, administrative expenses of $262,000, largely due to lower real estate taxes for DC office space, were shifted to F&E needs. The committee was not notified of the deviation since the funding reallocations fell below the reprogramming reporting requirements specified in P.L. 111-8.

18. Please provide a list of all the Furniture and Equipment (and their costs) purchased with funding appropriated in FY 2009. Please explain why this funding was not requested in FY 2009.

    (See next page)

FY09 Furniture and Equipment Purchases	
Furniture and Equipment	**Cost**
2 Drawer Black Legal File Cabinet (Opus 18"W Two Drawer Compressor Plate Vertical File)	$239.00
BROTHER INTELLIFAX 4100E	$299.00
Shredder	$800.00
Desk chairs for new employees	$2,700.00
Evacuation chairs for disabled employees' use during building emergency evacuation	$5,000.00
Reception area workstation and a rotary desk chair	$5,000.00
Twenty (20) Rotary Chairs for use in the Hearing Room	$16,249.00
Ergonomic chair, miscellaneous hearing room items	$1,000.00
Miscellaneous hearing room items for the OS	$2,000.00
Fax machines and chairs for FMC HQ	$4,361.00
2 drawer locking lateral cabinet	$423.85
L Workstation with Right Return, keyboard tray and locking drawers	$1,170.00
Baritone 24"W x 18"D Lamp Table	$620.00
Baritone 41"W x 20"D Magazine Table	$420.00
Baritone 68" File/Keyboard/File Credenza	$1,235.00
Matchmaker 4-Leg Base with Open Arms and Wood Frame	$3,790.00
Matchmaker Mid Back with Wood Frame	$9,380.00
SXO High Back, Black Web Chair with Arms	$6,348.00
Baritone Full Height Lectern	$650.00
Harmony 33x15 Upper Open Shelf	$723.00
Harmony 33x16 4 Shelf Bookcase	$906.00
Harmony 33x24 2 Drawer Lat File	$1,302.00
Harmony 66" Upper Closed Shelf	$1,527.00
Harmony 66x24 Base 4 File	$2,109.00
Harmony 72" Shell Desk	$1,074.00
Matchmaker 4-Leg Guest Chair	$1,076.00
Mobile Pedestal	$666.00
Mobile Pesestal w/Drawer Lock	$636.00
Purchase of 4 standard office furniture sets	$15,212.00
Purchase of office furniture items for OGC and BCL	$11,097.45
Purchase of furniture for the FMC Seattle Area Representative	$1,978.30
Purchase of furniture for the FMC South Florida Area Representatives	$1,889.30
Purchase of furniture for the Houston Area Representative	$2,174.30
Sub Total	**$104,055.20**
Software	**Cost**
Enterprise Content Management System and Enterprise Content Management System Integration Services	$127,200.00

Enterprise Content Management Implementation Services and Training	$265,865.00
Enterprise Content Management System and Services -- additional requirements, training slots	$39,300.00
Credit Card Software Purchases (under $3,000)	$15,000.00
Adobe Creative Suite 4 Production Premium	$1,634.55
APEXSQL DBA STUDIO WITH 1 YR SUPPORT	$1,049.13
DOUBLE-TAKE FOR WINDOWS - SERVER EDITION	$2,390.19
Sub Total	**$452,438.87**
ADP Equipment	**Cost**
Dell PowerEdge 1950	$7,298.24
Raritan - USB CIM required for virtual media and absolute mouse synchronization	$1,156.10
Raritan Dominion KX II-132, 32-port KVM-over-IP switch, 1 remote user, 1 local user, virtual media, dual power	$3,249.94
Funding for ADP Hardware micropurchases	$19,800.00
Dell 24in Wide,G2410 Green FlatPanel,Optiplex,Precision and Latitude	$257.14
OptiPlex 760 Minitower Base Upto 88 Percent Efficient PSU (224-2212) Processor: OptiPlex 760,Core 2 Duo E7300/2	$7,322.21
MFR #: 40406 PC CABLES	$34.40
MFR #: 52015 PC CABLES	$147.00
MFR #: 52017 PC CABLES	$98.01
MFR #: 40408 PC CABLES	$29.04
MFR #: 52018 PC CABLES	$34.12
MFR: # 52002 PC CABLES	$197.03
Catalyst 3560E 24 10/100/1000POE	$6,642.55
OptiPlex 760 Minitower Base Upto 88 Percent Efficient PSU (224-2212) Processor: Core	$153,900.00
Latitude E6500 Intel Core 2 Duo T9550 (2.66GHz, 6M L2 Cache, 1066MHz FSB) MEM955G [224-4708] - Operating Systems Genuine Windows Vista Business Down	$12,706.70
Latitude E6500 Black Intel Core' 2 Duo P8600 (2.40GHz, 3M L2 Cache, 1066MHz FSB), Genuine Windows Vista Business Downgrade,XP Professional SP3	$8,067.29
Latitude E6500 Black Intel Core' 2 Duo P8600 (2.40GHz, 3M L2 Cache, 1066MHz FSB), Genuine Windows Vista Business Downgrade,XP Professional SP3	$6,191.16
OPTIPLEX 960 MiniTower OptiPlex 960 Minitower Base Up to 88 Percent Efficient PSU, Genuine Windows Vista	$6,307.00

PowerEdge Rack 900 PowerEdge R900, 2x E7450 Xeon, Six Cores, 2.4GHz, 12M Cache, 1066Mhz FSB, Windows Server2008, Enterprise x64, Incl Hyper	$45,248.06
300GB MSA2000 15K RPM 3.5" SAS Hard Drive HP StorageWorks	$5,644.08
300GB MSA2000 15K RPM 3.5" SAS Hard Drive HP StorageWorks	$5,644.08
8GB PC2-5300 240-pin DDR2 SDRAM DIMM Kit for Select ProLiant Models	$1,888.00
BL C3000 KVM Option for Blade Chassis HP Server Accessories. Govt. HP BLC3000 KVM Option Factory IntegratedHP Server Accessories	$198.80
CTO Avnet BLC3000 FIO Onboard	$463.40
CTO Avnet Fiber Channel Cable, LC-LC, Multimode, 5m HEWLETT PACKARD - SIN: 132-8	$200.64
CTO BLC3000 Enclosure HP Server Accessories	$1,932.00
CTO Emulex LPe1105-HP 4Gb FC HBA for HP c-Class Blade System HEWLETT PACKARD - SIN: 132-8. CTO Emulex LPe1105-HP	$996.80
CTO HP ProLiant BL685C G5 Blade HP Servers	$3,934.00
HP 1200W 12V Hotplug 110V AC Power Supply	$929.60
HP 2GB PC2-5300 240-pin DDR2 SDRAM Memory Kit for Select ProLiant Models	$409.12
HP 64MB Smart Array E200 FIO Cache for ProLiant BL20p G4	$123.20
HP 72GB 10K SAS 2.5" Hot Plug Hard Drive. CTO 72GB 2.5 10k HOTPLUG HD Factory Integrated HP	$688.80
HP BLc 1 / 10Gb VC-Ethernet Module Option Kit. CTO HP BLc 1 / 10Gb VC-Ethernet Module Option	$3,350.49
HP BLc3000 Enclosure DVD Drive. Govt. HP BLc3000 Enclosure DVD Drive (Factory Integrated)	$78.37
HP BLc3000 Rack Rails HP Server Accessories	$59.29
HP StorageWorks 2312fc G2 Single Controller Modular Smart Array SAN Starter Kit	$14,512.20
HP Virtual Connect 4Gb Fibre Channel Module for c-Class BladeSystem Hewlett Packard-Partner Direct	$12,814.08
Power Cord, 10A C13-UL, 6ft. CTO 1.83m 10A C13-UL US Power Rackmountt Cord HP Server Accessories	$28.00
Processors, Opteron QC 8354 2.2GHz, 2MB L3 Cache, 2 Processor Option Kit for BL685c	$3,657.32
Processors, Opteron QC 8354 2.2GHz, 2MB L3 Cache, 2 Processor Option Kit for BL685c	$3,855.60
Govt. Platinum Support / Subscription for vCenter Server 4 Standard VMware - Licensing	$1,223.20
Govt. Platinum Support / Subscription for VMware vSphere Enterprise VMware - Licensing Manuf.	$5,633.20

Govt. VMware vCenter Server 4 Standard for vSphere Includes VMware - Licensing	$4,453.59
Govt. VMware vSphere 4 Enterprise for 1 processor VMware - Licensing	$20,507.04
Sub Total	**$371,910.89**
Telecommunications Equipment	**Cost**
Purchase and installation of LCD Communication Devices	$6,839.79
Sub Total	**$6,839.79**
GRAND TOTAL	**$935,244.75**

19. Please explain from where the nearly $1 million in funding for equipment was transferred and why that account didn't need the requested funding.

The Commission was able to utilize savings to spend $825,000 for hardware/software, which includes an Enterprise Content Management System (ECM) and computers throughout the agency, $104,000 for replacement furniture and equipment for various bureaus and offices in the agency, and $7,000 to purchase and install telecommunications equipment. The Commission strives to use new information technology (IT) as means of improving both agency business processes and the public's ability to conduct business with the agency. In fiscal year 2009, in considering the many recently introduced government-wide initiatives, the Commission identified new technology which will be incorporated into its business processes. This ECM technology investment and new agency computers, while quite costly, will lead to a more efficient and transparent government.

TESTIMONY OF
THE HONORABLE DEBORAH A.P. HERSMAN
CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD

BEFORE THE
SUBCOMMITTEE ON TRANSPORTATION, HOUSING AND URBAN DEVELOPMENT, AND RELATED AGENCIES
HOUSE COMMITTEE ON APPROPRIATIONS

REGARDING THE NTSB FY2011 APPROPRIATIONS REQUEST
MAY 18, 2010

[Submitted for the Subcommittee's Hearing Record[

Chairman Olver, Ranking Member Latham and Members of the Subcommittee:

Thank you for the opportunity to present the National Transportation Safety Board's (NTSB) funding request for Fiscal Year 2011 (FY11). On behalf of my fellow Board members and the men and women who work at the NTSB, let me say how much we appreciate the support of this subcommittee in providing the funding for the NTSB to accomplish its mission in investigating major transportation accidents and making recommendations to improve safety in all modes of transportation.

As you know, the core mission of the NTSB is to investigate transportation accidents to determine what happened, how it happened, why it happened, and what can be done to keep it from happening again. Today, we continue working hard to improve safety in a transportation environment that looks very little like it did when the agency began in 1967. In the 43 years since then, the mission of the agency has not changed, but the world has. The investigation of transportation accidents has become increasingly complex as machines, technology, and the operational environment have become more sophisticated. Our challenge today is to remain highly skilled and up-do-date with an expert technical staff and state-of-the-art investigative tools to competently and efficiently conduct the thorough investigations you and the American people expect and deserve.

To give a glimpse of the work we do, let me highlight the NTSB's accomplishments in FY09. We issued 18 major accident investigation reports and 2 summary reports. In addition, we produced 15 brief reports, hundreds of regional aviation safety accident briefs, and a special investigation report on pedal misapplications in heavy vehicles. We conducted 13 public or "sunshine" meetings on 14 separate accident reports. We also conducted 6 public hearings on accidents and safety issues, including:

- A 2008 fatal motorcoach accident in Victoria, Texas;
- The safety of helicopter emergency medical services (EMS) flight operations;
- The 2008 collision of a Metrolink commuter train with a Union Pacific freight train in Chatsworth, California;

- The 2009 crash of Colgan Air flight 3407 near Buffalo, New York;
- The 2009 ditching of U.S. Airways flight 1549 in the Hudson River in New York; and
- The 2009 crash of Empire Airlines flight 8284 at Lubbock, Texas.

NTSB – FY 2009 At A Glance	
Established:	April 1967
Number of Employees: (by HQ and Regions)	HQ: 299 Regional: 92
Major Reports and Products Adopted by the Board	18 Major Reports 2 Summary Reports 1 Special Investigation Report 15 Brief Reports
Major Accident Launches:	18
Other Accident Launches:	198
International Accident Launches:	10
Public Hearings:	6
Recommendations Issued:	174
Recommendations Closed:	87 Closed Acceptable Status 22 Closed Unacceptable Status
Vehicle Recorder Readouts:	374
Materials Laboratory Examination Reports:	110

In FY09, we launched to 18 major accidents, including:

- November 28, 2008: A self-propelled, unmanned shuttle train at Miami International Airport failed to stop at the passenger platform and struck a wall at the end of the guideway. 7 injuries.
- December 20, 2008: A Boeing 737 (Continental flight 1404) veered off the side of the runway and crashed during takeoff from Denver International Airport. No fatalities, 37 injuries.
- January 7, 2009: A 29-passenger bus crossed into the opposite travel lanes and overturned near Dolan Springs, Arizona, ejecting 13 occupants and partially ejecting 2 occupants. 7 fatalities, 10 injuries.
- January 15, 2009: An A320 (U.S. Airways flight 1549) made a ditching in the Hudson River following a multiple bird strike just after takeoff from New York's La Guardia Airport. No fatalities.
- January 27, 2009: An ATR-42 cargo aircraft (Empire Airlines flight 8284) crashed short of the runway while landing in Lubbock, Texas. No fatalities.
- February 12, 2009: A Bombardier Dash 8-Q400 operated by Colgan Air (Continental Connection flight 3407) crashed on approach to Buffalo-Niagara International Airport, impacting a house. 50 fatalities.

- March 22, 2009: A Pilatus PC-12 operated by Eagle Cap. Leasing, Inc. crashed on approach to Butte, Montana. 14 fatalities.
- April 12, 2009: An unnamed recreational vessel allided with a towing vessel *Little Man II* near Palm Valley, Florida. 5 fatalities.
- May 4, 2009: An 18-inch diameter high pressure natural gas pipeline ruptured near Palm City, Florida. 3 injuries.
- May 8, 2009: An MBTA light rail passenger train struck the rear of a stopped MBTA train in Boston. The train operator admitted that he was texting on his cell phone when the accident occurred. 51 injuries.
- June 19, 2009: A CN freight train derailed at a highway-rail grade crossing in Cherry Valley, Illinois, causing a breach of 13 tank cars and the release of ethanol, followed by a fire that spread to vehicles stopped at the grade crossing. 1 fatality, 7 injuries;
- June 22, 2009: A WMATA train operating under automatic train control struck the rear of a standing train near Ft. Totten Station in Washington, DC. 9 fatalities, 52 injuries.
- June 26, 2009: A minor accident between a passenger car and a truck tractor/trailer on I-44 near Miami, Oklahoma, blocked the two eastbound lanes of the 4-lane divided highway, causing traffic to stop and a queue to form. Six minutes later, a truck tractor/trailer crashed into the rear of the stopped and slow-moving traffic, causing the collision of 6 vehicles. 10 fatalities, 6 injuries.
- July 1, 2009: An automobile struck a gasoline tank truck near Upper Pittsgrove, New Jersey, rupturing piping beneath the cargo tank (wet lines), resulting in the release of gasoline onto the automobile, which then caught fire. 1 fatality.
- July 15, 2009: A tanker truck rollover occurred as the driver of the truck swerved to avoid colliding with a passenger car which lost control on I-75 near Hazel Park, Michigan. 3 injuries.
- July 15, 2009: A cargo transfer hose ruptured while transferring anhydrous ammonia from a highway cargo tank trailer to a storage tank at an industrial facility in Swansea, South Carolina. The resulting toxic ammonia cloud expanded across a highway where a car drove into the gas cloud causing the death of the driver. 1 fatality; 7 injuries.
- July 18, 2009: A San Francisco MUNI light rail train ran into the rear of a second train at the West Portal Station. 48 injuries.
- August 8, 2009: A Piper PA-32, operated by a private pilot, and a Eurocopter AS350, operated by Liberty Helicopters, collided in midair over the Hudson River near Hoboken, New Jersey. 9 fatalities.

In addition to these major accidents, we launched investigators to 198 accidents, primarily in general aviation, to conduct smaller-scale investigations. We also sent accredited representatives to support 10 foreign accidents including the Air France A330, en route from Rio de Janerio to Paris, that crashed in the Atlantic Ocean on June 1, 2009; the crash of a Sikorsky S-92 helicopter in the sea near St. Johns, Newfoundland, on March 12, 2009; and the crash of a Learjet Model 45 near Mexico City on November 4, 2008.

As you know, the end products of our investigations are our safety recommendations to government agencies, transportation operators, and other stakeholders to improve transportation safety. In our 43-year history, we have issued more than 13,000 recommendations, with an 82 percent acceptance rate. Last year alone, we issued 174 new recommendations. We also closed

109 previously issued recommendations, 87 of those in an acceptable status. Of course, the success of our recommendations is often directly due to the work of our advocates in Congress, many of whom are on this subcommittee. For example, in 2008, Congress made huge strides in advancing railroad safety with the passage of the Federal Rail Safety Improvement Act of 2008 (Public Law 110-432). This historic bill addressed significant safety issues and long-standing recommendations directed to the rail industry, namely, hours of service and positive train control.

Like many government agencies, the NTSB is being called upon to accomplish its goals with fewer resources. We are rising to the challenge, although we will need the continued support of Congress to meet our mission demands. In 2003, the NTSB completed 18 major products and 4 public hearings with 427 employees. In 2009, we completed the same number of major products and two additional hearings but with 33 fewer people.

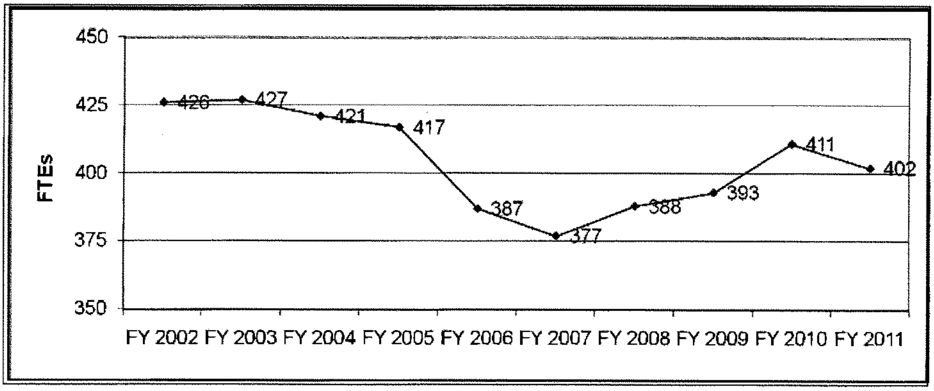


Figure 1: FTE FY2002 through FY2011

As with many government agencies now, the NTSB is facing potential staffing shortages due to retirements. Nearly 20 percent of the NTSB workforce is currently eligible to retire. In fact, 21 percent of our investigators and 27 percent of our executives are age 60 or older. Many of our investigative positions require unique expertise, and a failure to anticipate and prepare for retirements in those positions could leave the agency severely hampered in our ability to accomplish our investigative mission. But in the face of this potentially critical problem, we also see an unprecedented opportunity to adjust a lack of balance in the diversity of our work force, particularly among our investigators and our executives. Toward that end, we have formed an internal Diversity Task Force to develop aggressive marketing, outreach, and recruitment initiatives to attract highly skilled and diverse candidates to staff the next generation of investigators and managers.

Our staffing levels reached a 10-year high in FY03 with 427 full-time equivalent (FTE) positions at the NTSB. Beginning in FY04, staffing levels began to decline. With this subcommittee's support, our recent appropriations levels have permitted us to increase staffing levels, although we are short of our desired level of 477 FTEs. As noted above, we have accomplished the same number of products in FY09 as we did in FY03 with 33 fewer FTE positions. Our hiring mix over the last few years has been in response to significant regulatory requirements, such as the Federal government's computer security directives and General Services Administration (GSA) contracting requirements. While these increases in staff have assisted our investigative staff by improving the caliber of support from headquarters, not all of this hiring has been dedicated to hiring investigators and transportation specialists. It should be noted, however, that the President's budget request for the NTSB would result in the elimination of 13 FTEs. If the NTSB were funded at the requested level, we anticipate that we could accomplish this staff reduction through attrition. Historically, the NTSB experiences the greatest level of staffing turnover in the investigative offices. Although specific reductions are not known at this time, the NTSB's budget request assumed that it would need to give up approximately $3 million for staff funding, as the NTSB has no other means to reduce costs.

The Rail Passenger Family Act of 2008 (RFPA) requires the NTSB to respond to victims and their families affected by passenger rail disasters. To meet the requirements of the RFPA, the NTSB requires an additional $500,000 to its annual appropriation. This funding will go towards developing an effective response program and assisting the industry with implementation, which requires significant ongoing research and training demands that, unless otherwise appropriated, will detract from our investigative needs and investigator hiring. This funding request also includes staffing of 2 FTEs at $217,000 each per year, plus associated training and travel costs. The FY10 appropriation provided funding for these two new positions, but assumed that the positions would be filled by mid-year. Accordingly, our budget request seeks full-year funding for these two positions.

The NTSB headquarters lease is nearing its expiration. We are currently working through the GSA in a competitive lease acquisition. While a headquarters move is not certain, it remains a possibility. If the agency should be required to move to a new headquarters, most costs would occur in FY11. However, we anticipate that there could be some costs incurred in FY10. We appreciate that the Congress appropriated approximately $2.4 million in FY10 for non-recurring expenses associated with the lease. The NTSB anticipates that the total additional funding requirement for a move or a tenant build out to be almost $4.4 million, which is the request that we are seeking for FY11. Our request also includes an increase of almost $3 million for rent increases associated with the headquarters lease. Our current lease was executed in 2000. GSA experts advising the NTSB are informing us that we can anticipate substantial rent increases of almost 45 percent. If this increase is not funded, then the NTSB will be faced with a staff reduction to make up the shortfall. As noted, the Congress provided the NTSB with more than $2 million in FY10 for lease costs, and the NTSB will continue to require that same level of funding to cover the costs associated with the new lease. In addition, we have a number of leases which are expiring for our regional offices. Our budget request includes funding for these leases as well. If we should remain in our current headquarters location in L'Enfant Plaza, we anticipate that there would be some costs involved in making renovations to the space as well as some space adjustments. We expect that a lease will be awarded soon, which will resolve many of these questions. I will be happy to provide the subcommittee with additional information at that time.

One of the busiest parts of our agency—and it is getting busier all the time—is our laboratory. In our vehicle recorder lab, on-board vehicle recorders are downloaded and studied to support accident investigations. In FY09, our lab processed 374 cockpit voice and flight data recorders, along with digital cameras, video recordings, GPS navigation devices, cockpit displays and engine monitoring devices. About 30 percent of our flight data and voice recorder readouts support foreign accident investigations. The workload in the vehicle recorder lab continues to grow as the number and complexity of recording devices continually expand. In addition, our materials lab examined evidence collected at accident scenes—anything from aircraft engines to pieces of highways—in search of clues to the causes of accidents. Last year, the materials lab produced 110 separate reports.

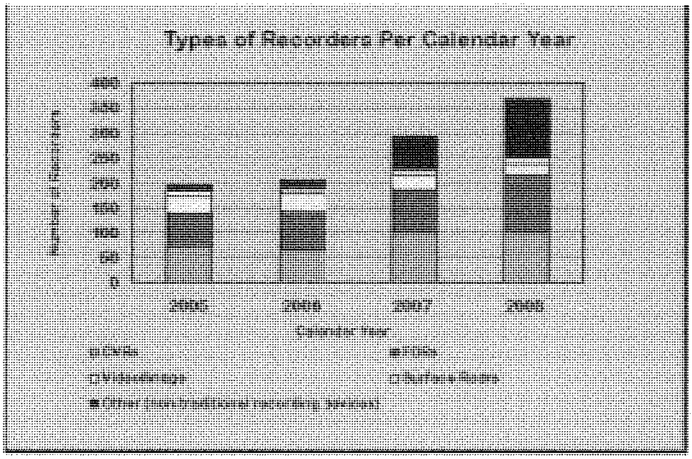


Figure 2: Types of Recorders Per Calendar Year

Our Vehicle Recorder Laboratory reads out on-board vehicle recorders to support the accident investigations. The laboratory workload has increased steadily over the last 5 years. Last year, the laboratory processed over 350 cockpit voice and flight data recorders, along with digital cameras, video recordings, GPS navigation devices, cockpit displays, and engine monitoring devices. Figure 2 above shows the breakdown of the laboratory work over the last several calendar years. For calendar year 2008, the laboratory had a 73 percent increase in workload, compared to calendar year 2005.

The work of the laboratory has earned international recognition. In addition to the critical support it plays in our domestic accident investigations, the laboratory has been called upon to assist in many foreign accident investigations. In fact, nearly 30 percent of the laboratory's flight data and cockpit voice recorder volume has supported foreign accident investigations, under the Chicago Convention of the International Civil Aviation Organization (ICAO). Most recently, the laboratory staff was asked to provide assistance in the investigation of the April

2010 crash of the Polish transport aircraft that killed the president and first lady of Poland, as well as many other prominent government, military and civilian leaders of Poland.

Like other parts of our agency, the laboratory has been called upon to do more with less which has resulted in aging equipment and some erosion of capability. Overall staffing levels for the laboratory have decreased in the last 5 years from 11 to 10 positions. Serious hardware and software shortages threaten the laboratory's ability to provide critical engineering support to accident investigations. The NTSB has had to rely on manufacturers for readout support in numerous investigations over the last few years. In the last year, the NTSB sent staff to two manufacturers' facilities for assistance in the download and readout of about 35 devices. Unfortunately, some manufacturers have not been as willing to aid the NTSB in recovering data from their devices.

The most critical laboratory requirements include an increase in staff of two recorder specialists (2 FTEs at $217,000 each per year) and associated training ($72,000), totaling $500,000. We are also asking for funding that would provide critical hardware and software upgrades for the laboratory, which include:

- Equipment for the readout of damaged Penny and Giles recorders, $75,000
- Equipment to read out recorders on new model aircraft (e.g. the Boeing 787 and the Airbus A350), $100,000
- Equipment for chip-level recovery of recorded data, $175,000
- Equipment for video recording analysis, $50,000
- Continued development of customize flight recorder software (CIDER), $100,000

The total request for laboratory staffing, training and equipment is $1,000,000.

The NTSB laboratories (Materials, Recorder, Animation, and Performance) support accident investigations in all transportation modes and conduct research related to transportation safety. These facilities require continuing capital investments or our current capabilities will be lost. The five-year capital investment plan is intended to bring these facilities back to the world class standards expected by our agency. These costs total $2,855,000 and comprise the following:

- Flight recorder analysis software (CIDER) upgrades: $550,000
- Material structure and composition analysis equipment: $935,000
- Component testing and inspection equipment: $775,000
- Development of a predictive-analytics research capability: $150,000
- Aviation data collection and data sharing tools: $300,000
- Enhancement of vehicle simulation capabilities: $60,000
- Upgrade of engineering graphics and animation capabilities: $135,000

Mr. Chairman, we recognize that in today's budgetary climate, increases in Federal agency budgets will be extremely challenging. In the past, this subcommittee has been fully supportive of the programs and needs of the NTSB. We appreciate your consideration of our request.

Thank you for the opportunity to discuss the NTSB's needs for FY11. I look forward to working with you and your staffs in your efforts to complete the NTSB appropriations for the upcoming fiscal year.

NATIONAL TRANSPORTATION SAFETY BOARD

QUESTIONS FOR THE RECORD SUBMITTED BY CHAIRMAN OLVER SUBCOMMITTEE ON TRANSPORTATION, HOUSING AND URBAN DEVELOPMENT, AND RELATED AGENCIES HOUSE COMMITTEE ON APPROPRIATIONS

FY 2011 BUDGET

10-YEAR FUNDING HISTORY

1. In table format, please provide a 10-year funding history for the National Transportation Safety Board (NTSB) which includes the agency's original budget request to the Office of Management and Budget (OMB), the budget request to Congress, the House Mark, the Senate Mark, and the enacted level for each fiscal year.

Response:

FY	Agency Request to OMB	Congressional Budget Request	House Mark	Senate Mark	Enacted level
2011	(See #2 below)	100,400,000			
2010	115,600,000	95,400,000	99,200,000	99,200,000	98,050,000
2009	104,465,000	87,891,000	90,750,000	91,000,000	91,000,000
2008	100,638,000	87,891,000	85,000,000	84,500,000	84,499,000
2007	98,358,000	83,000,000	81,594,000	79,594,000	79,338,000
2006	92,739,000	79,600,000	76,700,000	76,700,000	75,933,000*
2005	85,400,000	76,700,000	76,925,000	76,425,000	76,086,000*
2004	84,929,000	74,600,000	76,679,000	72,170,000	73,065,000*
2003	79,889,000	79,889,000	71,270,000	72,500,000	71,523,000*
2002	71,191,000	71,191,000	66,400,000	70,000,000	67,570,000*
2001	73,020,000	73,020,000	62,942,000	59,000,000	62,804,000*

*The amounts shown are net of enacted rescissions.

BUDGET REQUEST

2. Please provide a table showing NTSB's original budget request to OMB, the OMB passback level, NTSB appeal level, and the final budget request level for fiscal year (FY) 2011.

Response:

NTSB's Original Budget Request to OMB (see narrative below)	(millions)
FY 2011 Level in FY 2010 President's Budget	$ 96.4
Freeze at FY 2010 Level	$ 95.4
5% reduction based on the FY 2010 President's Budget request level	$ 91.6
Funding required to maintain staffing at the projected FY 2010 level	$ 101.5
Funding required to support staffing at the projected FY 2010 level plus ten critical positions	$ 103.7
Funding required to support staffing at the level previously indentified in the NTSB authorizing legislation, plus two critical new staff	$ 117.4
OMB Passback	$ 96.4
NTSB Appeal	$ 103.2
Final budget request level for FY 2010	$ 100.4

OMB guidance for the FY 2011 budget submission directed agencies to provide submissions under three funding scenarios:

- The FY 2011 level identified in the supporting data for the FY 2010 President's Budget request, ($96.4 million),
- A freeze at the FY 2010 President's Budget request level ($95.4 million), and
- A 5% reduction based on the FY 2010 President's Budget request level ($91.6 million).

For comparison, the NTSB provided three additional scenarios:

- Funding required to maintain staffing at the projected FY 2010 level of 406 FTEs ($101.5 million),
- Funding required to support staffing at the projected FY 2010 level plus ten critical positions ($103.7 million), and
- Funding required to support staffing at the level previously indentified in the NTSB authorizing legislation, plus two critical new staff ($117.4 million and 477 FTEs).

3. How much and what did OMB deny in your original budget request? Please detail for the Committee what NTSB can accomplish at the original budget request level, what has been deleted or pared down from the original request, and why you believe these expenses can be deferred.

Response:

OMB denied the NTSB $7.3 million based on the NTSB's request to fund its current onboard plus ten critical positions. In the NTSB's submission to OMB, this level ($103.7 million) funded 416 FTEs. The NTSB appealed OMB's initial passback level of $96.4 million and OMB was able to provide $100.4 million in the Administration's request. The final appropriations legislation for fiscal year 2010 enacted a lower pay raise than the pay raise assumed for 2010 in the NTSB's OMB submission for fiscal year 2011. After adjusting for the pay raise reduction, the NTSB estimated staffing for fiscal years 2010 and 2011 to be 411 and 402 FTEs, respectively, in the Administration's fiscal year 2011 request to Congress. The effect of the annualization of the vacant board members, their immediate staff and the rail victim support staff would result in a reduction of 13 positions in fiscal year 2011.

The details of the request indicate reductions in investigative positions because this is typically where the NTSB experiences the greatest level of staff turnover. The NTSB would institute a hiring freeze to accommodate the reduction in funding by reducing staffing. The FTE level would be reduced as employees depart throughout the year. Although this approach allows the NTSB to avoid reduction-in-force actions, it results in the loss of many more than 13 positions.

It is difficult to cut non-staff funding, other than those costs that vary directly with staffing. Fixed funding requirements include rent and information technology costs. The NTSB strongly supports protecting funding in the base for the laboratory upgrade, training and investigator equipment so remaining staff have the tools to conduct full and effective investigations. The reduction in staffing resources will result in delays determining accident causes and in issuing recommendations and reports.

4. Please provide the Committee with an update on the status of negotiating a new lease for the NTSB's headquarters facility, including a timeline for when the agency may need to move, if necessary, with a breakdown of the associated costs.

Response:

- GSA is continuing to negotiate a new lease on behalf of the NTSB.
- A lease is expected be awarded this summer.
- If a move is required, NTSB will be notified upon lease award.
- The estimated move cost is $5 million to move the NTSB's staff of approximately 300 persons.

5. The budget requests $500,000 for moving and build-out costs related to expiring leases for field offices located in Seattle, WA; Denver, CO; and Gardena, CA. Please provide

additional justification for why these additional resources are needed and what specific costs will be funded.

Response:

- The Seattle, WA office is moving due to security concerns at the current facility. The cost for moving and build-out are estimated at $120,000, which includes: the physical move, build-out costs, data and telephone wiring, security installation, computer server relocation, and new furniture.
- The Gardena, CA office's lease expires in February 2011 and the space is anticipated to be reduced. NTSB has occupied this space for over a decade and the space is in need of a renovation. This new lease must be fully competed, so a move may be required. If a move is required, the cost of moving, build-out, data and telephone wiring, security installation, computer server relocation, and new furniture will need to be funded. If the Gardena, CA office remains in its current location, new carpet, paint, new furniture, and construction to enable a space reduction will be required.
- Both the Denver, CO and the Chicago, IL leases expire in September and December 2011, respectively. Both leases will have to be fully competed and a move may be required. If a move is required, the cost of moving, build-out, data and telephone wiring, security installation, computer server relocation, and new furniture will need to be funded.

6. In FY 2010, the Committee provided $800,000 for equipment to upgrade the NTSB's data recorder laboratory. Although these funds were intended to be a one-time increase to the agency's budget, the NTSB has requested that these funds remain in the budget baseline for FY 2011 in order to sustain and upgrade other aspects of the crash investigation laboratory, which includes the recorder laboratory, the materials laboratory, and the vehicle performance laboratory. The budget also notes that the NTSB has a 5-year capital investment plan of $2.855 million with the intent to maintain the laboratory's capabilities as new technologies or other influences emerge in the transportation community. Please explain why the funds are needed in FY 2011 and what equipment would be purchased. In addition, please provide a year-by-year breakdown of how the agency intends to invest the $2.855 million according to its capital investment plan.

Response:

The main focus in FY 2011 continues to be capital improvements across the laboratories, since several years have passed with no substantial investments. The capital investment plan replaces equipment past it usable lifespan and begins to address new emerging technologies.

Laboratory	FY10 ($000s)	FY11 ($000s)	FY12 ($000s)	FY13 ($000s)	FY14 ($000s)	Total ($000s)
Safety Research & Statistical Analysis						
Equipment & IT Hardware	$0	$10	$0	$0	$0	$10
Software	$0	$100	$0	$0	$0	$100
Total	$0	$110	$0	$0	$0	$110
Materials Laboratory						
Equipment & IT Hardware	$324	$148	$375	$555	$115	$1,517
Software	$26	$5	$30	$0	$6	$67
Total	$350	$153	$405	$555	$121	$1,584
Vehicle Recorder Laboratory						
Equipment & IT Hardware	$36	$42	$56	$36	$58	$228
Software	$185	$185	$145	$120	$120	$755
Total	$221	$227	$201	$156	$178	$983
Vehicle Performance Laboratory						
Equipment & IT Hardware	$26	$26	$36	$26	$36	$150
Software	$5	$9	$0	$5	$9	$28
Total	$31	$35	$36	$31	$45	$178
Total Equipment & IT Hardware	$386	$226	$467	$617	$209	$1,906
Total Software	$216	$299	$175	$125	$135	$950
Grand Total	$602	$525	$642	$742	$344	$2,855

STAFFING

7. Please provide a table showing the staffing level (in FTEs) that this Committee provided the NTSB from 1998 through the 2010 and the 2011 requested level.

Response:

Fiscal Year	Funding Level Recommended by HAC (Thousands)	Recommended Staffing Level	Comments
1998	46,000	381	
1999	53,300	402	
2000	57,000	402	
2001	62,492	458	
2002	66,400	485	No specific staffing level is recommended. However, the Committee recommended increases sufficient to cover pay raises.
2003	71,270	437	No specific staffing level is recommended. However, the Committee recommended increases sufficient to cover request level of 432 and five additional training center staff.
2004	76,679	440	
2005	76,925	426	
2006	76,700	401	No specific staffing level is recommended. However, the Committee recommended the funding level provided in the Administration's budget request. The staffing level shown is the estimated level that could be supported by that amount.
2007	81,594	410	
2008	85,000	407	
2009	91,000	410	Based on the amount in the omnibus bill and the staffing level identified in the Senate Appropriations Committee report.
2010	99,200	434	
2011	100,400	402	Level supported by the amount allowed in the President's budget for the Safety Board.

8. Please provide data on the status of the Board Members' terms and identify their status (Chairman, Vice Chairman, or Member).

Response:

Name	Board Title	Appointment	Board Member Term Expiration
Deborah A. P. Hersman	Chairman	July 24, 2009	December 31, 2013
Christopher A. Hart	Vice Chairman	August 12, 2009	December 31, 2012
Robert L. Sumwalt	Member	August 21, 2009	December 31, 2011
Vacant	Member		December 31, 2010
Vacant	Member		December 31, 2014

9. Please provide a listing showing the number of SES employees currently on board.

Response:

	Position Title	**Name**
1.	Executive Officer	Zoeller, Thomas E
2.	Managing Director	Mayer, David L
3.	Deputy Managing Director	Zimmermann, Barbara E
4.	General Counsel	Halbert, Gary Lynn
5.	Chief Financial Officer	Goldberg, Steven E
6.	Director, Office Of Administration	Ward, Lola A
7.	Chief Scientist Aeronautical	Clark, John C
8.	Director, Office Of Aviation Safety	Haueter, Thomas E
9.	Deputy Director, Regional Ops	Guzzetti, Jeffrey B
10.	Deputy Director Aviation Safety	Delisi, John W
11.	Director, Office Of Highway Safety	Magladry, Bruce A
12.	Director, Office Of Marine Safety	Spencer, John S
13.	Director, Research And Engineering	Kolly, Joseph M
14.	Chief Information Officer	Scherer, Robert P
15.	Deputy Director, Railroad, Pipeline & Hazardous Materials	Ritter, James H
16.	Director, Office Of Communications	Lewis, Nancy L

10. Please provide a table that shows the funding for SES awards for FY 2007 through FY 2009, the estimated amount for FY 2010, and the amount requested for FY 2011.

Response:

The SES awards are paid from NTSB's salaries and expenses appropriation based on the OPM SES data for performance appraisal system certification. The calculation is 10% of the aggregate rates of basic pay for career SES employees on-board during the preceding fiscal year.

Fiscal Year	Career SES Count	Aggregate Base Pay	Award Percentage	Award Pool (Excludes Benefits)
FY2011 (est)	16	$2,669,794	10%	$266,979
FY2010	14	$2,503,444	10%	$250,344
FY2009	16	$2,756,313	10%	$275,631
FY2008	15	$2,366,610	10%	$236,661
FY2007	11	$1,656,842	10%	$165,684

11. Please provide a list showing the number of Presidential and political appointees authorized and the grade level and salary for each position. Also provide comparison information for the previous two years. For the current year, please note which positions are currently vacant and whether any of these are new positions. If any of the positions are new, please justify why these new positions are necessary.

Response:

- The charts below list the number of authorized Presidential and political appointees, the grade level and salary for each position, beginning with the current year followed by the previous 2 fiscal years (FY09 and FY08).
- These positions are of a continuing nature. There are newly established political positions.
- The chart also includes term appointments/positions, which also support Board Members in addition to those filled under Schedule C appointment authority.

Current List of Presidential/Political Appointees

FY-10 (5/7/10)

TOTAL ON BOARD = 3 PAS, 1 Limited Term SES, 1 Noncareer SES, 3 Schedule C, and 2 Term Appointees

Name	Title	Appointment Type	Level/Grade	Annual Rate
Deborah A.P. Hersman	Chairman/Member	PAS	EX III	$165,300
Thomas E. Zoeller	Executive Officer	Limited Term SES	ES	$175,000
Mary Cresence Stafford	Special Assistant	Schedule C	GS-15	$123,758
Nancy Lewis	Director, Office of Communications	Noncareer SES	ES	$159,497

Name	Title	Appointment Type	Level/Grade	Annual Rate
Christopher A. Hart	Vice Chairman/ Member	PA/PAS	EX IV (PAS & PA)	$155,500
Louis H. Mayo	Special Assistant	Schedule C	GS-15	$155,500
He Ning	Staff Assistant	Term	GS-11	$ 81,204
Robert L. Sumwalt, III	Member	PAS	EX IV	$155,500
Sean L. Dalton	Special Assistant	Schedule C	GS-15	$136,134
Stephanie R. Matonek	Staff Assistant	Term	GS-11	$ 66,630
Vacant	Member	PAS	EX IV	
Vacant	Special Assistant	TBD	TBD	
Vacant	Staff Assistant	TBD	TBD	
Vacant	Member	PAS	EX IV	
Vacant	Special Assistant	TBD	TBD	
Vacant	Staff Assistant	TBD	TBD	

List of Presidential/Political Appointees

FY-09 (09/30/09)

TOTAL ON BOARD = 3 PAS, 1 Noncareer SES, 2 Schedule C, and 2 Term Appointees

Name	Title	Appointment Type	Level/Grade	Annual Rate
Deborah A.P. Hersman	Chairman	PAS	EX III	$162,900
Nancy Lewis	Director, Government Affairs	Noncareer SES	ES	$159,497
Christopher A. Hart	Vice Chairman/ Member	PA/PAS	EX IV (PAS & PA)	$153,200
Louis H. Mayo	Special Assistant	Schedule C	GS-15	$153,200
He Ning	Staff Assistant	Term	GS-11	$ 79,280
Robert L. Sumwalt, III	Member	PAS	EX IV	$153,200
Sean L. Dalton	Special Assistant	Schedule C	GS-15	$132,914
Stephanie R. Matonek	Staff Assistant	Term	GS-11	$ 63,021
Vacant	Member	PAS	EX IV	
Vacant	Special Assistant	TBD	TBD	
Vacant	Staff Assistant	TBD	TBD	
Vacant	Member	PAS	EX IV	
Vacant	Special Assistant	TBD	TBD	
Vacant	Staff Assistant	TBD	TBD	

Note: Member Steven R. Chealander separated February 28, 2009 and Member Kathryn O. Higgins separated August 3, 2009.

12. In table format, please provide the number of investigators and technical specialists for each year over the past 5 years broken down by office.

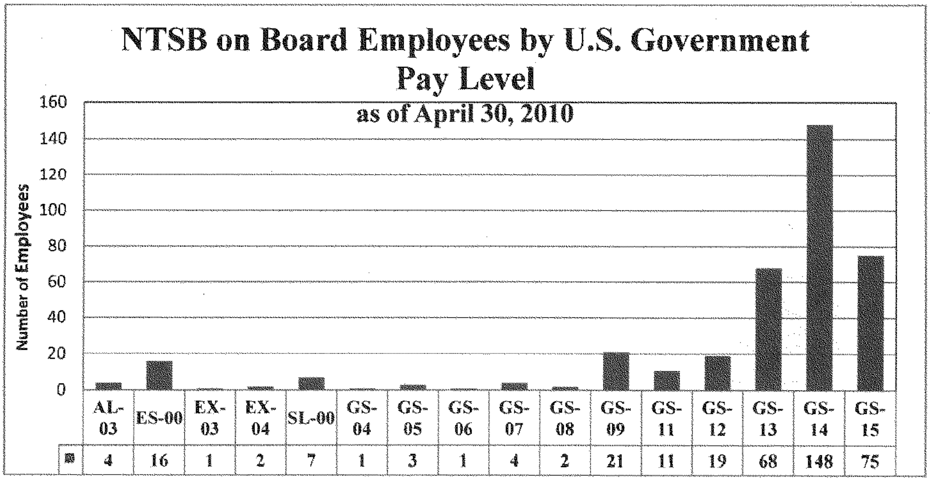
Response:

Year	AS	RPH	MS	HS	RE	TOTAL
2010	99	24	12	17	29	181
2009	100	25	13	18	29	185
2008	99	27	13	22	28	189
2007	94	25	8	22	27	176
2006	95	28	9	22	26	180
2005	100	28	9	22	31	190

AS	Office of Aviation Safety
RPH	Office of Railroad, Pipeline and Hazardous Materials Investigations
MS	Office of Marine Safety
HS	Office of Highway Safety
RE	Office of Research and Engineering

13. Please produce a bar graph with the number of employees at each U.S. government pay level for the NTSB. The graph should have "number of employees" on the y-axis" and all of the U.S. Government Pay Levels (G1-SES) on the "x-axis."

Response:



Note: ALJ – Administrative Law Judge SL – Senior Level SES data includes one non-career SES employee. There are no employees paid below the GS-4 pay level.

14. Please provide a table that shows the total number of employees at each U.S. Government pay level for the NTSB, the number and percentage of employees at each pay level that are currently eligible to retire, and the number and percentage of employees at each pay level that will be eligible to retire in five years.

Response:

NTSB Employees Eligible to Retire by Pay Level
As of April 30, 2010

	AL 03	ES 00	EX 03	EX 04	SL 00	GS 04	GS 05	GS 06	GS 07	GS 08	GS 09	GS 11	GS 12	GS 13	GS 14	GS 15
Total # of Employees	4	16	1	2	7	1	3	1	4	2	21	11	19	68	148	75
Number Eligible To Retire Now	4	5	0	1	5	0	0	1	0	1	4	2	2	9	22	16
Percent Eligible to Retire Now	100	31	0	50	71	0	0	100	0	50	19	18	11	13	15	21
Number Eligible to Retire in 5 Years	0	4	0	0	0	0	0	0	0	0	5	3	1	5	35	16
Percent Eligible to Retire in 5 Years	0	25	0	0	0	0	0	0	0	0	24	27	5	7	24	21

15. How many vacancies currently exist at the NTSB? How many of the vacancies are investigative staff?

Response:

Current Vacancy Listing	
May-2010	
INVESTIGATIVE STAFF	
Position	Office
(2) Aerospace Engineer (Structures or Maintenance)	Office of Aviation Safety
Aviation Accident Investigator	Office of Aviation Safety
Supervisory Aviation Safety Investigator	Office of Aviation Safety
Vehicle Factors Investigator	Office of Highway Safety
Interdisciplinary Engineer	Office of Highway Safety
(2) Senior Marine Accident Investigator	Office of Marine Safety
Senior Technical Advisor – Fire and Explosives	Office of Research and Engineering

Current Vacancy Listing	
May-2010	
INVESTIGATIVE STAFF	
Position	Office
Interdisciplinary Engineer	Office of Research and Engineering
Transportation Research Analyst	Office of Research and Engineering
Railroad Accident Investigator - Mechanical	Office of Railroad, Pipeline and Hazardous Materials Investigations
Chief, Human Performance & Survival Factors Division	Office of Railroad, Pipeline and Hazardous Materials Investigations
Railroad Accident Investigator	Office of Railroad, Pipeline and Hazardous Materials Investigations
OTHER	
Deputy Director, Administration	Office of Administration
Human Resources Specialist (ER)	Office of Administration
Administrative Law Judge	Office of Administrative Law Judges
Technical Writer-Editor	Office of Aviation Safety
EEO Specialist	Office of the Chairman
Accountant/Internal Controls	Office of Chief Financial Officer
IT Specialist	Office of Chief Information Officer
Attorney-Advisor	Office of the General Counsel
Ombudsman-Senior Advisor	Office of the Managing Director
Program Analyst (SRIS)	Office of the Managing Director
Executive Secretariat	Office of Managing Director
Chief, Quality Assurance Division	Office of Managing Director
Management Analyst	Office of Managing Director
2 Special Assistants	Board Members
2 Staff Assistants	Board Members
Deputy Director, Communications	Office of Communications
Website Editor	Office of Communications
Legislative Affairs Specialist	Office of Communications
Deputy Director, Research and Engineering	Office of Research and Engineering
Director, Railroad, Pipeline and Hazardous Materials Investigations	Office of Railroad, Pipeline and Hazardous Materials Investigations

16. In the past, the NTSB has had an attrition rate that ranges between 5 and 10 percent per year. What was the NTSB's attrition rate for 2009? For comparison purposes, what was the attrition rate for each of the five previous years?

Response:

Thirty-five employees separated from the permanent workforce in FY 2009. The attrition rate was 8.5% and included 17 retirements, 6 resignations, 1 death, 7 transfers, 2 removals, and 2 terminations of appointment. Attrition rates for each of the four previous years follow.

Fiscal Year	Attrition Rate
2009	8.5%
2008	4.0%
2007	7.1%
2006	9.5%
2005	7.5%
2004	5.8%

17. What is the average time period it takes for the NTSB to hire new staff? How does this compare to prior years and what steps is the agency taking to ensure that hiring is done quickly and efficiently?

Response:

The chart below reflects the average number of days in the past 4 fiscal years that it took NTSB to fill positions. This average is based on the U.S. Office of Personnel Management's (OPM) quarterly reporting requirements and is calculated from the date the announcement closes until the date the offer of employment is made. NTSB has consistently reported averages less than OPM's 45 day hiring model.

Fiscal Year	Average Days To Hire
FY-2009	26
FY-2008	35
FY-2007	40
FY-2006	41

Note: The Office of Personnel Management (OPM) has identified hiring reform as a priority. Specifically OPM wants agencies to streamline the process from the time the manager makes the decision to recruit to the new employee's entry on duty date. They have developed an 80-day recruitment model as guidance for agencies to follow. Success in meeting the new objectives will require NTSB to automate its recruitment and hiring process so that tracking, responding and reporting can be effective and efficient.

18. The Committee is concerned about the potential loss of institutional knowledge facing the NTSB given that the agency has a significant number of employees who are currently eligible to retire, or who will soon be eligible to retire. What programs does the NTSB have to introduce people to the type of work that the agency does through hands-on work experience or to entice undergraduate and graduate students with relevant backgrounds to

come to work for the agency? How does this compare to programs that the NTSB previously operated?

Response:

With the potential decrease of institutional knowledge attributed to a large number of retirement-eligible employees in our workforce and the need for broad industry knowledge, the NTSB is actively taking steps to train existing employees and to provide opportunities to expand their careers within the agency and to attract highly skilled and diverse candidates for the next generation of employees and managers. As part of this initiative, we have identified competencies for our major occupations and are currently conducting an assessment to determine gaps. The results of the competency assessment will be used to identify appropriate training and enhance recruitment efforts. NTSB is also evaluating its succession management process to establish strategic alignment and develop plans to ensure critical leadership in the future.

More specifically, the NTSB has utilized a number of available federal programs geared toward developing the skills of existing staff and attracting highly skilled candidates and college graduates to work for NTSB. Below is a brief description of the internal career development opportunities we offer to our employees.

INTERNAL DEVELOPMENT & CROSS TRAINING

- Executive Leadership and Development program (ELDP) - A competitive program of up to 12 months that provides a series of training and developmental experiences designed to develop incumbent managers and supervisors (GS-15) competencies in the mandatory executive core qualifications (ECQs) for SES positions, i.e., Leading Change, Leading People, Results Driven, Business Acumen, and Building Coalitions. The purpose of the ELDP is to identify and develop a cadre of NTSB employees who have high potential for promotion to the SES and to serve as future senior leaders of the NTSB.

- Management Development program (MDP) - A competitive program that provides a detail in the Managing Director's Office of up to 6 months of supervisory and management training, and developmental experiences for incumbent specialists and program managers (GS-13/14) identified as having high potential. The purpose of the MDP is to develop a cadre of NTSB employees who have high potential for assuming supervisory and managerial responsibilities at the NTSB.

- Upward Mobility Program - A training program that enables managers to provide career development and growth opportunities to employees in positions that are at grade GS-9 level or below who are selected by virtue of their demonstrated potential to assume positions of greater responsibility within the NTSB.

- Detail Opportunities – Managers are providing NTSB staff with a variety of opportunities to learn the functions and assignments of other offices. In addition, we have worked with other Federal agencies to provide opportunities for NTSB employees to work with them for a short period of time. This allows our employees to serve as models and onsite experts for learning about the NTSB's mission and work.

OUTREACH EFFORTS

We have continued our association with the Graduate School which has provided extensive opportunities to introduce Federal employees to our mission and work. Below shows the programs that we have either developed or participate in as outreach efforts to recruit high potential candidates.

- Federal Career Intern program (FCIP) – The NTSB FCIP is established under the provisions of Executive Order 13162 and is designed to attract exceptional men and women to the NTSB workforce who have diverse professional experiences, academic training and competencies, and to prepare them for careers in analyzing and implementing public programs.

- The Executive Leadership Program (ELP) NTSB is a participating agency in this program with the Graduate School, Washington, D.C. As a participating agency, NTSB provides developmental work experiences to GS 11-13 level employees of other Federal agencies. During this time, the candidate works within the NTSB offices on special projects and assignments that provide exposure to NTSB mission, work processes and opportunities.

- The Executive Potential Program (EPP) is a participating agency in this program with the Graduate School, Washington, D.C. As a participating agency, NTSB provides GS 13-15 level employees of other federal agencies 60-day developmental assignments away from their current position. These assignments provide exposure and visibility at the highest levels of NTSB leadership, as well as contribute to the critical knowledge for participant's long-term career planning.

- Shadowing Assignment Also associated with our participation with the Graduate School, Washington, D.C., we volunteer to provide "shadowing" opportunities for employees of other agencies. In addition to the managerial duties and responsibilities, these Federal employees gain exposure to NTSB work processes, mission assignments and opportunities.

- Student Temporary Employment Program (STEP) – Students work in various offices and gain exposure to NTSB's mission. Four engineering students will work with the Office of Research and Engineering during the 2010 summer months in the areas of Materials Laboratory, Vehicle Performance, Vehicle Recorders, and Safety Studies. The Office of Aviation hires approximately 5-7 students in the regional offices to assist in accident investigations. In addition, 6 students being hired this summer for non-modal offices.

- Student Volunteer Program –The NTSB offers unpaid training opportunities to students in high school and college. These opportunities provide students with work experience related to their academic program. Student volunteers are exposed to the NTSB work environment and learn about the mission and responsibilities of its components. Some of the benefits of the program include:

  (1) Career exploration, early in the student's academic studies.
  (2) Exposure to new and emerging occupations and professions.
  (3) Academic credit for the work performed. (This is determined by the academic institution.)
  (4) Work experience, which will enhance the student's ability to obtain paying jobs in the future.

19. The budget request that was submitted to OMB in September 2009 requested $2,232,000 to fund 10 additional full-time equivalent (FTE) positions. However, that request was denied. If the NTSB was given additional resources in FY 2011 to fund 10 new positions, which positions are the most critical to the agency and why? Please provide a table showing information on the types of staff and the area in which they would work, as well as the associated cost of each position.

Response:

Highlighted below are the National Transportation Safety Board's top 10 hires by position, technical specialty area and associated costs. Below the table is a brief explanation of the agency's operational need for each position.

Technical Areas	Types of Positions	Cost
Rail	Signals Electrical Engineer/Positive Train Control (PTC) Spec	$ 216,595
Rail	Senior Rail Investigator	$ 216,595
Aviation	Helicopters Investigator	$ 216.595
Research and Engineering	Vehicle Performance Engineer	$ 216,595
Aviation	Regional Air Safety Investigator (Alaska)	$ 216,595
Research and Engineering	Structural Engineer	$ 216,595
Aviation	Human Performance Investigator	$ 216,595
Research and Engineering	Recorder Specialist	$ 216,595
Highway	Senior Mechanical Engineer, Vehicle Specialist	$ 216,595
Aviation	Meteorologist	$ 216,595
	Types of Positions	$2,165,950

Signals Electrical Engineer/Positive Train Control (PTC) Specialist (Rail)
This person investigates all signal systems, including railway, crossing signals, and interconnected highway traffic signals. Signals are a critical issue in virtually all accidents, and there is a need for continued emphasis on and monitoring of progress on the installation of PTC systems on railroads—railroads must install PTC systems by the 2015 deadline. The Signals Electrical Engineer/PTC specialist analyzes all system recorders, locomotive event recorders, video recordings, etc., and uses advanced computer technology to provide a precise time history of the signal system performance and sequence of events. These technologies are constantly advancing, and signals and PTC are critical areas in which the National Transportation Safety Board (NTSB) needs to expand its staffing and expertise.

Senior Rail Investigator (Rail)
The senior rail investigator leads the NTSB go-team that travels to the scene and collects physical evidence to determine the underlying causes of an accident. An additional position is needed for organizing, managing, and coordinating the investigation of major railroad accidents (to include commercial passenger, freight, and transit). The actions of the engineer, conductor, crewmembers, dispatchers, and others involved in the operation of an accident train must be comprehensively evaluated for each accident. A senior investigator is the focal point of every accident investigation and one of the most difficult positions to fill at the NTSB. The position requires outstanding leadership skills and broad expertise in at least one of the railroad industry disciplines such as operations, track, mechanical, or signals and train control.

Helicopters Investigator (Aviation)

Helicopter operations and systems require specialized expertise. Helicopters are being used more extensively for medical transport and law enforcement. Given the increasing use of helicopters in civilian aviation and growing number of helicopter safety issues and accidents over the past years, the Board has a critical need for investigators with experience in flight tests and engineering specific to helicopters.

Vehicle Performance Engineer (Research and Engineering)
For several years the Safety Board has been short staffed in this area, which is very critical in determining accident reconstruction. Vehicle Performance engineers provide specialized aeronautical and mechanical engineering, biomechanics, and accident reconstruction support for all modes. They use computational and visualization technology to provide accurate time-motion history of the sequence of events and determines vehicle and occupant motion and the underlying causes of that motion. They also develop computer simulations of vehicle and occupant motion and video animations of accident scenarios, and participate and direct research into fluid and thermal sciences and other special projects as required. An additional engineer in this area is required to ensure a full range of support for all modes is effectively maintained.

Regional Aviation Safety Investigator- Alaska (Aviation)
For over a year, the NTSB's Alaska Regional Office has been short staffed by one investigator. This lack of staff has placed an undue burden on existing staff not of only the

Anchorage Office, but from other NTSB regional offices in the lower 48 states. The Alaska Region is authorized 3 investigators to cover the entire state of Alaska. Due to the current vacancy, there have only been 2 investigators available, which require that both investigators remain "on-call" permanently, with no "down time" for completing reports, attending training, or taking leave. In an effort to ameliorate this situation, investigators from other regions have been sent to Anchorage for short tours of duty to assist. The state of Alaska is very large, very remote from the lower 48 for a timely accident response, and also very unique in regard to aviation operations. A permanent investigator in the Alaska Region is required for effective, timely, and thorough investigations.

Structural Engineer (Research and Engineering)
The need for structural analysis is becoming more prevalent in all modes of accident investigation. This position would examine crashworthiness issues of vehicles and components, mechanical component and system failures, and other large scale failures.

Human Performance Investigator (Aviation)
All accident investigations have a human factors component, whether it is in design and engineering, operations, air traffic control, maintenance, or regulatory oversight. Currently, the staff shortage in this area permits support of major, high-visibility accidents only. This position will enable the Board to extend this capability.

Recorder Specialist (Research and Engineering)
The work in this area requires specialists to extract, format, and analyze data from aircraft flight data and cockpit voice recorders and recorders installed in locomotives, large ships, and some highway vehicles; to examine recorded electronic audio and video information from aircraft, ship, train, and support communication systems; to provide electronic engineering support for all accident investigation modes in examining communication and control systems, including digital and analog formats; to provide time synchronization to correlate voice and data recorder outputs; and to use advanced digital and analog filtering and signal representation techniques to facilitate extraction of critical information. The workload in this area has increased and is growing at an exponential rate due to the volume of vehicles that have recording systems installed. To keep up with this demand additional specialist is required.

Senior Mechanical Engineer, Vehicle Specialist (Highway)
This is a senior level engineering position that provides technical expertise in the formulation, development, research, analysis, coordination and management of extremely technical highway investigations, studies, or special investigations, with a focus on complex vehicle issues, which may ultimately lead to new or revised Federal regulations or industry standards. This position is also needed as part of the Board's quality control and investigative process.

Meteorologist (Aviation)
Meteorologists support every transportation mode at the NTSB. They provide support in Major aircraft investigations, field investigations, and investigations in all of the transportation modes of the NTSB. Between the years FY2005 through FY2009 demands for support from the non-aviation transportation modes comprised 16% of the meteorological

workload. There are presently two (2) meteorologists; however, from 2002 to 2005, there were four (4) meteorologists. In 2005, one meteorologist resigned, but the vacancy was not filled because of budget constraints. In 2009, two additional meteorologists retired and again, budget constraints did not allow us to fill those vacancies. The one remaining meteorologist had an extremely heavy case load that prevented him from receiving any training and also necessitated some instances of cancelling and rescheduling his leave. A second meteorologist was hired in November 2009, however individual case loads remain very high and the situation is exacerbated by requiring our senior meteorologist to provide on-the-job training for the recently hired meteorologist. At the present time, each of the two meteorologists have a steadily increasing caseload that precludes them from providing more than basic meteorological assistance in other than major accident investigations. The high individual workload requires occasional denial or cancellation of leave or training opportunities in order to maintain schedules, office coverage, and go-team coverage. Based on FY2009, the individual caseload for meteorologist will increase approximately 20% in 2011.

TRAVEL

20. Please provide a table showing the NTSB's travel budget for 2006 through 2011 (request), by year.

Response:

Fiscal Year	Amount ($000's)
2011 Request	2,700
2010 Estimate	2,749
2009	2,614
2008	3,074
2007	2,521
2006	2,136

TRAINING

21. Please provide a table showing the level of funding devoted to staff training and employee development for each year for FY 2007 through FY 2009, the estimated amount for FY 2010, and the amount requested for FY 2011.

Response:

Fiscal Year	Training ($000's)
2011 Request	$1,010
2010 Estimate	$1,006
2009	$910
2008	$1,039

2007	$889

22. The NTSB authorization bill passed in 1996 allowed the agency to charge foreign nationals for some or all of the costs associated with their training. Please provide a table showing how much, per year, the NTSB has collected over the past five years for this training.

Response:

Fiscal Year 2005	$135,060
Fiscal Year 2006	$96,880
Fiscal Year 2007	$158,066
Fiscal Year 2008	$143,260
Fiscal Year 2009	$209,248

TRUE OVERTIME

23. In table format, please provide the amount of true overtime the NTSB paid out over the last three years.

Response:

Fiscal Year	True Overtime ($000's)
2009	$848
2008	$933
2007	$635

NTSB TRAINING CENTER

24. The NTSB signed a 20-year lease on July 12, 2001 for a facility in Loudon County, VA. The NTSB opened the facility in August 2003. What is the annual lease rate for each year?

Response:

The NTSB signed a 20 year fixed rate lease. The operating costs adjust annually by the annual change in the Consumer Price Index and the actual costs of electric, gas, and water utilities are reconciled annually dollar for dollar.

August 2003 to July 2004	$35.02 per 72,000 SF or $2,521,440 per year
August 2004 to July 2005	$34.494 per 72,000 SF or $2,483,565 per year
August 2005 to July 2006	$34.691 per 72,000 SF or $2,497,755 per year
August 2006 to July 2007	$34.806 per 72,000 SF or $2,506,030 per year

August 2007 to July 2008	$34.951 per 72,000 SF or $2,516,498 per year
August 2008 to July 2009	$35.6086 per 72,000 SF or $2,563,820 per year
August 2009 to July 2010	$36.866375 per 72,000 SF or $2,654,379 per year

25. The NTSB Academy comprises 72,000 square feet. In table format, please provide the type of space that is not leased or used by other agencies or entities (such as TWA wreckage space, classrooms, lab space, etc.) and the square footage associated with each type of space. Please provide a total at the bottom of the table.

Response:

	Square Footage	SPACE USAGE
Laboratory Space	28,500	The space where the TWA 800 wreckage is housed and storage of other wreckage used for classroom and laboratory study
Auditorium	3,600	Used for all Academy events and a variety of rental events.
Class Rooms #3 & #4	2,400	Both tiered classrooms are used for Work Force Development courses, break out rooms, and rental events
Executive Conference Room	600	Used for visiting NTSB personnel and the occasional rental event
Common Area 2nd Floor	10,775	Consists of lounge area, bath rooms, pantry, vending area, and hallways on second floor
Total Area not utilized by other agencies	**45,875**	

26. In table format, please provide a list of other agencies or entities that are leasing, renting, or using space, the square footage associated with each, and the annual rent that is being paid. Please provide totals at the bottom of the table.

Response:

Agency	Type of Space	Unit	Annual Amount
Department of Homeland Security	Use of Suites	Furnished Suites 204, 205 & 217	$327,200
Transportation Security Administration	Lease	15,053 RSF	$623,653

Total			**$950,853**

27. In table format, please provide amounts that the NTSB has received in revenue from the NTSB facility by source (rent, training courses, etc.) for each of fiscal year 2006, 2007, 2008, 2009, and estimates for 2010 and 2011.

Response:

	Source		
Fiscal Year	**Training**	**Rent**	**Total**
2011	1,000,000	900,484	1,900,484
2010	1,000,000	950,853	1,950,853
2009	1,146,520	1,105,563	2,252,083
2008	559,171	651,803	1,210,974
2007	758,300	193,687	951,987
2006	719,331		719,331

28. In table format, please provide the annual costs to run the academy for each fiscal year 2007, 2008, 2009, and estimates for 2010 and 2011 (this should include lease rate, operating expenses, FTE costs, support, etc).

Response:

	FY 2007 Expenditures	FY 2008 Expenditures	FY 2009 Expenditures	FY 2010 (est)	FY 2011 (est)
Personnel	**466,582**	**512,525**	**550,743**	**562,309**	**573,555**
Space Rental	**2,286,660**	**2,516,498**	**2,563,820**	**2,640,735**	**2,653,939**
Operating/Support	**368,279**	**748,271**	**1,152,530**	**956.013**	**960,793**
Total Costs	**$3,121,521**	**$3,777,294**	**$4,267,093**	**$4,159,057**	**$4,188.287**

29. Has the NTSB moved any personnel or functions (such as lab space) from its location in the District of Columbia (DC) to the academy within the last 12 months? If so, was this move offset by a one to one savings of square footage in the DC location, or some other ratio? Please explain. Also, was there any rent savings associated with these moves? If so, please quantify.

Response:

The NTSB has not moved any personnel or functions from its Headquarters location in Washington, DC to the Training Center within the last 12 months.

30. What percentage of training for NTSB personnel does the agency hold at the academy?

Response:

In 2009, 36 courses were presented at the NTSB Academy, including both Academy Courses (open to the public) and Workforce Development Courses (open to NTSB staff only). Of those 36 courses, 49% (or 17 courses) were Workforce Development Courses (Note: All 36 courses offered in 2009 were open to NTSB staff).

31. Please describe and quantify any savings that result from training for NTSB personnel at the academy. This can include conference room, hotel, travel and any other savings resulting from holding training sessions at the academy rather than other facilities.

Response:

NTSB saves on several levels with the Training Center. Savings occur in not having to rent space at local hotels and charges related to training such as use of audio visual equipment, business center fees, and internet connections. All of these services are available at the NTSB Training Center.

Other savings are realized by holding classes at the NTSB Training Center that would otherwise necessitate sending personnel to individual training courses at commercial locations. The Training Center staff reviews all training requests each year from the NTSB individual offices and reconfigures the commonalities into a revised plan that provides for common training to be held at the Training Center.

- In FY 2009, 292 NTSB staff attended course offerings at the Training Center for a total of 678 student-training days. NTSB courses used training rooms at the Training Center for 81 days. We estimate that by conducting this training at the Training Center, it saved the Safety Board $ 480,840.

  This figure is based on:

  $ 135,600 in travel and per diem costs (based on $200/day)
  $ 223,740 in tuition costs (based on $330/day)
  $ 121,500 on Conference Room rentals (based on $1,500/day rental fee)

32. Does the existence of the academy result in any other types of savings not specifically addressed in these questions?

Response:

The availability of training resources at the Training Center does provide organizational savings in other areas. While some savings are more easily measured such as travel and tuition costs, issues of training and development of an entire workforce and culture of accident investigation as well as contributions to the world wide safety community are not as easily quantified. For example, benefits are also provided by the Training Center for intangibles such as: employee satisfaction, organizational commitment, employee retention, stress reduction, communication, conflict resolution, teamwork, managerial excellence and leadership, to name a few. The results of the 2008 Federal Human Capital Survey (FHCS) placed the NTSB as seventh out of 30 small agencies in terms of employee satisfaction and agency performance. Specifically, 54.7% of employees responded that they were satisfied with the training they received for their present job, 68.2% said their supervisors/team leaders support employee development, and 76% responded that the NTSB is a good place to work.

33. In table format, please provide the number of staff dedicated to the academy for each of fiscal year 2007, 2008, 2009, and estimates for 2010 and 2011.

Fiscal Year	No. of Staff Dedicated to Training Center
2007	3
2008	3
2009	3
2010	3
2011	3

34. Please provide a chart detailing the positions at the academy and indicate if any positions are vacant.

Response:

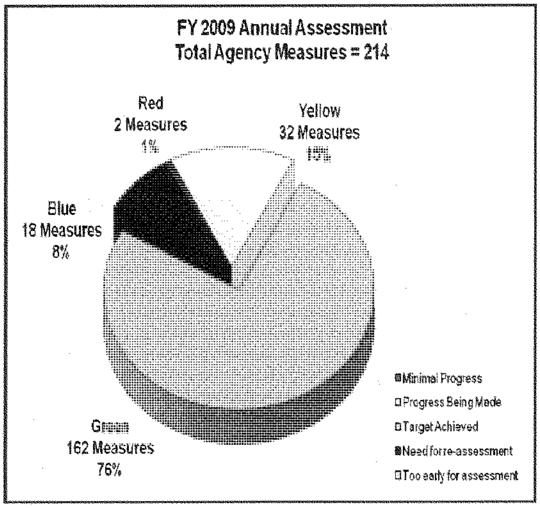
1) Associate Managing Director – NTSB Training Center
2) Assistant to the Associate Managing Director-Registrar
3) Training Officer

PERFORMANCE PLAN

35. Please provide information on the extent to which the NTSB met its performance plan goals for FY 2009.

Response:

Overall, the NTSB is pleased with the agency's performance during fiscal year 2009, as shown through the overall achievement of the 12 office operating plans. Through September 2009, the NTSB monitored and evaluated 214 performance measures from the 12 plans and ensured that resources were allocated to maximize the chance of achievement. Our organizational assessment consists of evaluating the success of the 214 performance measures for FY2009 against specific target levels. The chart to the left summarizes the data by color code assessment. 76% of all performance measures were successfully achieved.



MOST WANTED LIST

36. Since 1990, the NTSB has maintained a "most wanted" list of safety recommendations. Please provide the Committee with the most recent most wanted list for the record.

Response:

"MOST WANTED" LIST

Actions needed by Federal Agencies

Legends for NTSB Action/Timeliness Designation
● Unacceptable response
● Acceptable response, progressing slowly
● Acceptable response, progressing in a timely manner

RAIL: The Federal Transit Administration should:

● Improve Transit Railcar Design

  - Provide adequate means for safe and rapid emergency responder entry and passenger evacuation.
  - Prevent the telescoping of transit railcars in collisions.
  - Remove equipment that cannot be modified to meet the new standards.

MARINE: The U. S. Coast Guard should:

- ● Require Safety Management Systems (SMS) for Domestic Vessels
  - Require domestic vessel operators to develop, implement, and maintain a systematic and documented SMS to improve their safety practices and minimize risk.
- ● Reduce Accidents and Incidents Caused by Human Fatigue in the Marine Industry
  - Set working hour limits for mariners based on fatigue research, circadian rhythms, and sleep and rest requirements.

AVIATION: The Federal Aviation Administration should:

- ● Improve Oversight of Pilot Proficiency
  - Evaluate prior flight check failures for pilot applicants before hiring.
  - Provide training and additional oversight that considers full performance histories for flight crewmembers demonstrating performance deficiencies.
- ● Require Image Recorders
  - Install crash-protected image recorders in cockpits to give investigators more information to solve complex accidents.
- ● Improve the Safety of Emergency Medical Services (EMS) Flights
  - Conduct all flights with medical personnel on board in accordance with stricter commuter aircraft regulations.
  - Develop and implement flight risk evaluation programs for EMS operators.
  - Require formalized dispatch and flight-following procedures including up-to-date weather information.
  - Install terrain awareness and warning systems (TAWS) on aircraft used for EMS operations.
- ● Improve Runway Safety
  - Give immediate warnings of probable collisions/incursions directly to flight crews in the cockpit.
  - Require specific air traffic control (ATC) clearance for each runway crossing.

- Require operators to install cockpit moving map displays or an automatic system that alerts pilots when a takeoff is attempted on a taxiway or a runway other than the one intended.
- Require a landing distance assessment with an adequate safety margin for every landing.

● Reduce Dangers to Aircraft Flying in Icing Conditions

- Use current research on freezing rain and large water droplets to revise the way aircraft are designed and approved for flight in icing conditions.
- Apply revised icing requirements to currently certificated aircraft.
- Require that airplanes with pneumatic deice boots activate the boots as soon as the airplane enters icing conditions.

○ Improve Crew Resource Management

- Require commuter and on-demand air taxi flight crews to receive crew resource management training.

● Reduce Accidents and Incidents Caused by Human Fatigue in the Aviation Industry

- Set working hour limits for flight crews, aviation mechanics, and air traffic controllers based on fatigue research, circadian rhythms, and sleep and rest requirements.
- Develop fatigue awareness and countermeasures training program for controllers and those who schedule them for duty.
- Develop guidance for operators to establish fatigue management systems, including a methodology that will continually assess the effectiveness of these systems.

HIGHWAY: The Federal Motor Carrier Safety Administration should:

○ Prohibit Cell Phone Use by Motorcoach Drivers

- Prohibit commercial driver's license (CDL) holders driving under the authority of the passenger-carrying or school bus endorsement from using a cellular telephone.

● Require Electronic Onboard Data Recorders to Maintain Accurate Carrier Records on Driver Hours of Service

- Improve collection and maintenance of data concerning hours of service (HOS) of motor carrier drivers by requiring use of electronic onboard recorders (EOBRs).

● Improve the Safety of Motor Carrier Operations

- Prevent motor carriers from operating if they put vehicles with mechanical problems on the road or unqualified drivers behind the wheels.

○ Prevent Medically Unqualified Drivers from Operating Commercial Vehicles

- Establish a comprehensive medical oversight program for interstate commercial drivers.
- Ensure that examiners are qualified and know what to look for.
- Track all medical certificate applications.
- Enhance oversight and enforcement of invalid certificates.
- Provide mechanisms for reporting medical conditions.

The National Highway Traffic Safety Administration should:

○ Prevent Collisions by Using Enhanced Vehicle Safety Technology

- Reduce rear-end collisions through use of adaptive cruise control and collision warning system technologies.

● Enhance Protection for Motorcoach Passengers

- Redesign motorcoach window emergency exits so passengers can easily open them.
- Issue standards for stronger bus roofs and require them in new motorcoaches
- Devise new standards to protect motorcoach passengers from being thrown from their seats or ejected when a bus sustains a front, side, or rear impact or rolls over.

Actions needed by States

HIGHWAY

Improve Child Occupant Protection

- Enact State laws requiring booster seats for young children up to age 8.

Enact Primary Seat Belt Enforcement Laws

- Increase number of people who wear seat belts through stronger enforcement laws that don't restrict officers to observing another offense first.

Eliminate Distractions for Young Drivers

- Prohibit use of interactive wireless communications devices by young novice drivers.
- Restrict the number of teen passengers traveling with young novice drivers.
- Enact graduated driver licensing legislation.

Eliminate Hard Core Drinking Driving

- Enact legislation to reduce crashes involving repeat offenders who drink large amounts of alcohol, including:
    - Frequent, statewide sobriety checkpoints.

- More effective measures (sanctions/treatment) for first time arrests with high blood alcohol concentration and repeat offenders.
- Zero blood alcohol requirement for those already convicted of driving while Intoxicated.
- Administrative license revocation for refusing to take or failing an evidential test for alcohol.
- Vehicle sanctions for DWI offenders to separate drinking from driving.
- Elimination of plea-bargaining DWI offenses and programs that divert offenders and purge offense records.
- DWI offense records retention for at least 10 years to identify repeat offenders.
- Special sanction court-based programs such as DWI courts for hard core DWI offenders.

MARINE

Enhance Recreational Boating Safety

- Require mandatory education of boat operators.
- Require use of life jackets by children.

37. Which of the most wanted recommendations, if any, have been placed on the list since the list was published in the FY 2011 budget request in February 2010?

Response:

Three issues were added to the Most Wanted List of Transportation Safety Improvements at the February 18, 2010 Board Meeting:

- AVIATION: Improve Oversight of Pilot Proficiency
- MARINE: Require Safety Management Systems (SMS) for Domestic Vessels
- RAIL: Improve Transit Railcar Design

TRANSPORTATION ACCIDENT INVESTIGATIONS

38. Please provide a table showing, by each modal safety office, the number of accident investigations conducted by that office and the number of open accident investigations for FY 2009.

Response:

Office	Conducted Investigations	Ongoing Major Investigations (from 2008 Annual Report)
Aviation	1,405	11
Highway	26	8
Marine	4	7
Rail, Pipeline, Hazmat	8	17

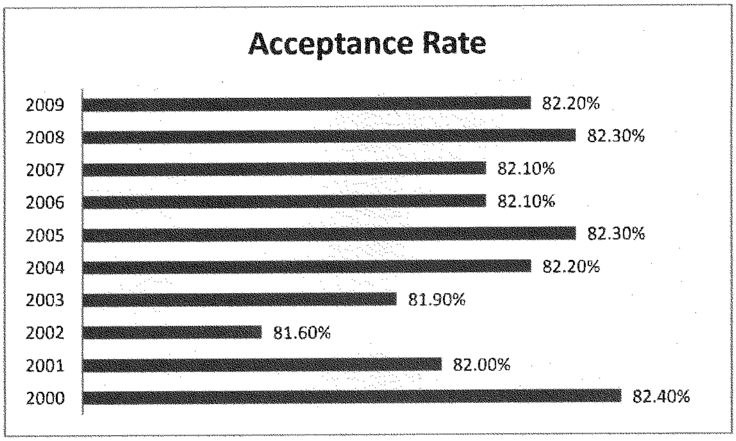
39. Please provide a table showing, by each modal safety office, the number of accident investigations conducted by that office for each of the last five years.

Response:

Mode	FY 05	FY 06	FY 07	FY 08	FY09
Aviation	1,934	1,855	1,995	2,156	1,405
Highway	33	31	26	25	26
Rail	8	7	10	10	6
Pipeline	1	2	2	0	1
HazMat	1	0	0	0	1
Marine	4	6	3	3	4

40. Please provide a bar chart showing the acceptance rate for all recommendations made by the NTSB for each of the past 10 years.

Response:



41. Provide a table that shows for each of the last five years: 1) the total number of general aviation accidents; 2) the number of fatal general aviation accidents; 3) the number of general aviation accidents, both fatal and non-fatal, in which an NTSB investigator traveled to the accident site or to a location to examine wreckage after it was moved; 4) the percentage of all general aviation accidents that the NTSB launched an investigator to; 5) the number of fatal general aviation accidents in which an NTSB investigator traveled to the accident site or to a location to examine wreckage after it was moved; and 6) the percentage of fatal general aviation accidents that the NTSB launched an investigator to.

Response:

	GA Accidents		Fatalities	GA Accidents		Fatal GA Accidents	
Year	Total GA Accidents	Fatal GA Accidents	Total Fatal Injuries	NTSB Investigator traveled	% of GA where NTSB Launched	NTSB Investigator traveled	% of Fatal GA where NTSB Launched
2005	1,670	321	563	207	12.4%	185	57.6%
2006	1,523	308	706	208	13.7%	190	61.7%
2007	1,652	288	496	179	10.1%	167	58.0%
2008	1,566	275	494	181	11.6%	155	56.4%
2009	1,474	272	474	157	10.7%	141	51.8%

RECOMMENDATIONS

42. Provide a table that shows the number of safety recommendations made by the NTSB for each of the past five years. Include a breakdown of these recommendations by transportation mode.

Response:

	FY2010	FY2009	FY2008	FY2007	FY2006
Aviation	91	115	137	78	78
Highway	33	27	22	36	32
Intermodal	0	0	0	5	0
Marine	11	10	8	10	17
Pipeline	8	0	0	10	10
Railroad	2	23	38	19	27
TOTAL	145	175	205	158	164

43. How many open recommendations has NTSB issued to the Department of Transportation's modal administrations that are deemed "open-unacceptable"? Please specify by mode for the record.

Response:

Mode	Open-Unacceptable
Aviation	85
Highway	33
Intermodal	7
Marine	10
Pipeline	1
Railroad	16

44. How many of the "open-unacceptable" recommendations from last year have been resolved?

Response:

Aviation:	5
Highway:	1
Railroad:	0
Marine:	3
Pipeline:	0
TOTAL:	9

FATALITIES

45. The table on pages 132 and 133 of the NTSB's budget shows that overall transportation fatalities have gone down over the past few years. However, despite this downward trend, fatalities in some areas, such as motorcycles, buses, commuter rail, and air taxis, have gone up. Does the NTSB have any opinion as to the why fatalities continue to rise in these categories despite the progress that has been made to reduce transportation fatalities in other areas?

Response:

There have been significant improvements in transportation safety, but the growth in population and overall usage of transportation modalities will occasionally result in raw number increases, despite per capita improvements in safety. Although motorcycle fatalities have increased over time – an increase of over 130% since 1998 – 2009 revealed a decrease in fatalities by 16% during the first 9 months of the year. As a result of a motorcycle forum the NTSB held in 2006, several recommendations addressing critical needs identified at the forum were issued, and at least three significant studies have been undertaken since that time, including a comprehensive motorcycle safety study. Because the average number of yearly bus occupant fatalities is small, that number is influenced by individual bus accidents, such as the Mexican Hat, Utah (9 fatalities) and the Sherman, Texas (17 fatalities) accidents. Regarding commuter rail fatalities, the statistics were greatly influenced by the September 12, 2008 accident in Chatsworth CA, which resulted in 25 fatalities. Finally, the safety of air taxis has been an ongoing concern for the NTSB and in part for that reason, the agency held a public hearing on a critical sector- emergency medical services-on February 3-6, 2009.

STATUS OF REAUTHORIZATION

46. Given that the authorization for the NTSB expired on September 30, 2008, what is the current status of the agency's reauthorization legislation in Congress?

Response:

There are reauthorization bills in the House (H.R. 4714) and in the Senate (S. 2768). H.R. 4714 was reported by the House Transportation and Infrastructure Committee on March 3, 2010. S. 2768, reported out of the Senate Commerce Committee on February 23, 2010, was taken up by the full Senate under unanimous consent and passed on May 13, 2010.

47. Please provide a table that compares the NTSB's reauthorization proposal with the legislative proposals being considered by the authorizing Committees of the House and Senate.

47. Please provide a table that compares the NTSB's reauthorization proposal with the legislative proposals being considered by the authorizing Committees of the House and Senate.

Legislative Proposals Comparison
Reauthorization 2010

NTSB proposal	House proposal (H.R. 4714)	Senate-passed proposal (S. 2768)
Sec. 1101: Change definition to say "accident" may include events that affect transportation safety, but may not involve destruction or damage, as Board prescribes or Congress directs.	Same, but destruction or damage as Board prescribes "by regulation." [Sec. 3]	Same as Board language. [Sec. 3(a)]
Sec. 1111(d): When the Chairman is *unavailable* (strike "absent").	Same. [Sec. 4]	Same. [Sec. 3(b)]
Sec. 1111(j): Anyone using NTSB seal, logo, or name without written permission from the Chairman can be prosecuted under 18 USC 709.	Silent.	Silent.
Sec. 1113(a)(1): Add depositions, correct spelling of "subpoena."	Silent.	Same. [Sec. 3(c)(1)]
Sec. 1113(a)(2): Board has authority to subpoena witnesses and obtain evidence.	Silent.	Same. [Sec. 3(c)(2)]
Sec. 1113(a)(5) and (6): Board has authority to subpoena financial and medical records.	Silent.	Silent.
Sec. 1113(b)(1)(C): Leasing authority for the Board under Title 31.	Sec. 1113(b)(1)(I): Limits the Board's authority to enter into leases to not more than $300,000 for any individual property.	Silent.

NTSB proposal	**House proposal (H.R. 4714)**	**Senate-passed proposal (S. 2768)**
	[Sec. 5(a)(2)(B)]	
Sec. 1113(b)(1)(D): An agency head can lend or receive from the Board supplies, personnel, services without reimbursement. Excludes administrative supplies and equipment.	Same. Moved to Sec. 1113(b)(2). [Sec. 5(a)(3)]	Silent.
Sec. 1113(b)(1)(I): Authorize Board to make contracts *and other agreements* with non-profits.	Same. Sec. 1113(b)(1)(H) [Sec. 5(a)]	Silent.
Sec. 1113(b)(1)(J): Authorize Board to enter into contracts on terms set by the Chairman.	Same. Moved to Sec. 1113(b)(1)(I) [Sec. 5(a)(2)(A)	Silent.
Silent	Sec. 1113(i): New provision. The Board must establish by regulation criteria to be used in determining whether or not a public hearing is appropriate for each accident investigation and safety study. Includes list of 6 factors that must be considered in meeting criteria. [Sec. 5(b)(1)]	Silent.
Silent.	Sec. 1117(7): Board must add to the annual report an analysis of its public hearing decisions in the	Silent.

NTSB proposal	House proposal (H.R. 4714)	Senate-passed proposal (S. 2768)
	previous year, providing explanations for decisions not to hold a public hearing. [Sec. 5(b)(2)]	
Sec. 1114(b): Changes extend protection to more proprietary materials, including commercial or financial information; requires the Board to inform the submitter of proprietary information about the Board's selective disclosure; requires submitters to inform the Board when information submitted warrant proprietary or arms control protections.	Same.	Same. [Sec. 3(d)]
Sec. 1114(e): Clarifies that the restriction on the Board not to publicly disclose audio or video cockpit recorders is applicable only to those recorders that are in a cockpit or cabin.	Silent	Silent
Silent	Sec. 1114(e): Creates separate section on recorders and transcripts for marine. Prohibits disclosure of vessel's voice or video recorder, or recordings between crew and pilot, VTS or other vessels. Board may release transcripts relevant to the	

NTSB proposal	House proposal (H.R. 4714)	Senate-passed proposal (S. 2768)
	investigation. [Sec. 6(a)]	
Sec. 1114(g): Foreign investigations: The Board "shall" (instead of "may") release records of a foreign investigation after it is completed or is more than 2 years old. Clarifies that FOIA exemptions are applicable as with domestic investigations. Board may refer to information gained through a foreign investigation to support making a safety recommendation.	Silent	Same. (Sec. 3(d)(1)(7)
Sec. 1114(h): Creates an exemption under FOIA for release of records of an ongoing investigation and fixes current situation which required the Board to "freeze" a copy of the investigative files each time it receives a FOIA request.	Silent	Same. [Sec. 3(g)]
Silent.	Sec. 1114(h): Prohibits disclosure of information by party reps. Requires party reps to sign agreement (but does not include other government agencies deemed by the Board to be performing a law enforcement or similar function). [Sec.	Silent.

NTSB proposal	House proposal (H.R. 4714)	Senate-passed proposal (S. 2768)
	6(b)(1)]	
Silent.	Require GAO study of Board's party process to determine if there is actual or perceived bias in the investigation conduct or outcome and whether the composition of party representatives should be expanded to include independent technically qualified representatives. The study is to be completed in 18 months. [Sec. 6(b)]	Silent.
Sec. 1115(d): Provides authority for Board to offer courses more broad than accident investigation, including those who influence the course of transportation safety through support or adoption of Board safety recommendations; charge fees for them.	Same. [Sec. 7]	Same. [Sec. 4(b)]
Sec. 1116: Technical corrections to "Reports and Studies."	Same. [Sec. 8]	Same. [Sec. 3(e)]
Sec. 1118(a): Silent.	$113,026,000 for FY 2011. $120,258,000 for FY 2012; $122,187,000 for FY 2013; $124,158,000 for FY 2014. [Sec. 9(a)]	$98,050,000 for FY 2011 and FY 2012 [Sec. 2(a)]

NTSB proposal	**House proposal (H.R. 4714)**	**Senate-passed proposal (S. 2768)**
Sec. 1118 (c): Gives Board authority to accept fees in advance of courses, short-term rentals of Training Center facilities; corrects language about the account to which collections are deposited.	Same. [Sec. 9(b)]	Same. [Sec. 2(b)
Silent.	Sec. 1131(a)(1)(A): Changes "cause or probable cause" to "causes or probable causes." [Sec. 10(a)]	Silent.
Sec. 1131(a)(1)(C): Change criteria for selecting railroad accidents to investigate from one fatality and any passenger train accident to numerous fatalities and any *significant* passenger train accident.	Adds only "(other than a fatality involving a trespasser)". [Sec. 10(a)(2)]	Similar to House [Sec. 4(c)(1)]
Sec. 1131(a)(1)(E): Give Board authority to elect lead in a marine investigation. Also changes the "and" at the end to "or."	Same. [Sec. 10(a)(3)]	Changes the "and" to "or" but does not give the Board authority to select marine investigations as lead. [Sec. 4(c)(2)]
Sec. 1131(a)(1)(F): Adds "incident" to events that trigger a Board investigation.	Proposes the same but in slightly different legislative structure. [Sec. 10(a)(4)]	Same. [Sec. 4(c)(3)]

NTSB proposal	**House proposal (H.R. 4714)**	**Senate-passed proposal (S. 2768)**
Sec. 1131(a)(1)(G): Adds authority for Board to investigate an accident in response to an international request.	Same. [Sec. 10(a)(5)]	Same. [Sec. 4(c)(4)]
Sec. 1131(a)(1)(H): Adds authority for Board to investigate incidents affecting transportation safety as defined by the Board.	Same, but placed in Sec. 1101. [Sec. 3]	Same. [Sec. 4(c)(5)]
Sec. 1131(b): Change "shall" to "may" regarding Board's or USCG's authority to investigate and establish probable cause.	Silent.	Silent.
Sec. 1132(a)(1)(A): Board has authority to investigate accidents involving commercial space launch vehicles.	Same in Sec. 1131(a)(5)(H). [Sec. 10(a)(5)	Same. [Sec. d)(1)(B)]
Sec. 1132(e): Board designated representatives of DOT have authority to access property where aviation accident has occurred or wreckage is located.	Sec. 1131(c)(3): Gives authority to designated representatives appointed by the "Secretary" but does not specify which secretary (DOT, DHS, or both?). However, subsection (c) specifies Transportation or department in which the Coast Guard is operating. [Sec. 10(c)]	Sec. 1132(e): Gives authority to designated representatives appointed by the "Secretary." Language says this is for the purpose of "any aviation accident or incident." [Sec. 4(e)
Sec. 1132a(a)-(c):	Same. [Sec. 11]	Silent.

NTSB proposal	**House proposal (H.R. 4714)**	**Senate-passed proposal (S. 2768)**
Gives general authority to NTSB to investigate marine accidents. The Board will coordinate with USCG to issue regs on notification and reporting. The Board will provide for participation by USCG "when necessary." USCG cannot establish probable cause.		
Sec. 1132a(d): The Board may delegate accident fact gathering to USCG; rep may access property where an accident has occurred or wreckage is located.	Does not have a separate marine provision.	Silent. Sec. 1132(f): Same. Slightly different language delegating directly to the Coast Guard (with consent of Secretary). Amends heading of Sec. 1132 to read, "Civil aircraft and maritime accident investigations." [Sec. 4(d)]
Sec. 1134(a): Ensures that authority is extended to FAA, USCG, and other designees for on-scene fact-finding.	Same. [Sec. 12]	Same. [Sec. 4(e)(1)
Sec. 1134(b): Gives Board express authority to download information from a variety of recording devices; gives Board authority to obtain proprietary information needed to download and read the information. The last	Silent.	Same; language slightly different from Board's or House's versions. [Sec. 4(e)(2)]

NTSB proposal	House proposal (H.R. 4714)	Senate-passed proposal (S. 2768)
sentence reinforces that the proprietary information would be protected if identified as a trade secret or commercial or financial information.		
Sec. 1134(c): Same as above but for surface modes.	Silent.	Same; slightly different from Board proposal. [Sec. 4(e)(3)]
Silent	Silent	Sec. 1138(a): Strikes, "conducted at least annually, but may be". [Sec. 4(a)]
Sec. 1154(a): Parties to litigation may not use discovery to obtain vehicle recorders OR recordings. (Change of "and" to "or.")	Same. [Sec. 13]	Same. [Sec. 3(f)]
Sec. 1155(a): Penalty for "ambulance chasing" can range from $1,000 to $1,000 + contingency fees.	Silent.	Silent.
Sec. 41113(b)(7): Air carrier must submit a plan for notifying family members before destruction of unclaimed possessions from an air crash.	Same. [Sec. 14(a)	Same. [Sec. 5(a)]
Silent.	Sec. 41313(c)(7): Extends same requirement to	Same as House. [Sec. 5(b)]

NTSB proposal	House proposal (H.R. 4714)	Senate-passed proposal (S. 2768)
	commercial aviation accidents involving foreign carriers. [Sec. 14(b)]	
Silent.	Adds provision that NTSB and USCG will issue regs. to give the Board prompt notification through USCG of all marine accidents of potential interest to the Board. [Sec. 15]	Silent.
Silent	Silent	"**Accident-Related Information Release Policy Report**." Requires a report within 180 days describing Board policies, procedures, and guidelines for the expedited release of factual accident-related information to: families; other government investigative agencies; private investigators; the public, and; other stakeholders.

QUESTIONS FOR THE RECORD
Chairman Olver
Access Board
Subcommittee on Transportation, Housing and Urban Development and Related Agencies
House Committee on Appropriations

SALARIES AND EXPENSES

1. Is the 2.4 percent increase in personnel solely for salary and benefit inflation?

   ANSWER: No. The increase assumes an inflation rate of 2 percent, the replacement of two positions, which were vacant during part of FY 2010, the addition of one new staff position, and salary for Board member participation in upcoming rulemaking activities.

2. What specific benefits will the proposed additional technical writer bring to rulemaking capacity?

   ANSWER: The Board is currently working on seven rulemaking projects. An accessibility specialist is assigned lead responsibility for each rulemaking project, including drafting rulemaking documents. The accessibility specialists have different levels of experience and skills in drafting rulemaking documents. We plan to add a person with expertise in drafting rulemaking documents to work with the accessibility specialists to improve the quality of the rulemaking documents. The person will be highly skilled in the language arts, including plain language principles. By pairing an accessibility specialist with subject matter expertise and a person with expertise in drafting clear and concise rulemaking documents that the public can easily understand, we expect to reduce the amount of time spent on internal review and editing of rulemaking documents, and reduce the length of time it takes to issue rules. The person will also be responsible for developing and maintaining templates or models for rulemaking documents, and a rulemaking drafting or style manual specific to the types of rulemaking documents produced by the Board to ensure the consistency and quality of work. We also plan to use the person to assist in drafting technical assistance and guidance materials on the Board's rules.

TRAVEL

3. Please provide a chart showing the components and associated amounts used to estimate the FY 2011 request for travel.

   ANSWER: The Access Board anticipates no significant changes in cost between FY 2010 and FY 2011 in the advisory committee and training categories and no changes are reflected in those two categories. In the category of Board meetings and public hearings, the Board intends to hold five of its Board meetings in Washington, DC and a sixth meeting combined with a public hearing outside Washington. The costs of in-town meetings are lower in some categories, since they will be held in our conference space, rather than rented hotel space. The following table shows the detailed amounts.

Description	Board Meetings (5)	Out-of-town event (1)
Meeting space	0	2,400
Sleeping rooms	61,000	15,000
Meals	15,000	8,200
Audio visual	0	12,700
Travel	78,000	15,600
Attendants	6,000	1,200
Other	10,000	2,000
Subtotal	**170,000**	**57,100**
Total	**227,100**	

RENT

4. Please provide a chart showing the rental cost breakout by year for the remainder of the occupancy agreement (through June 2018).

ANSWER: The chart is shown below. Other expenses include security, maintenance of the space, and after-hours services.

Fiscal Year	Occupancy Agreement	Other	Total
FY 2010	519,709.64	10,108.00	529,817.64
FY 2011	674,320.03	10,186.00	684,506.03
FY 2012	681,265.53	10,361.00	691,626.53
FY 2013	688,419.66	10,543.00	698,962.66
FY 2014	695,787.76	10,732.00	706,519.76
FY 2015	703,377.26	10,929.00	714,306.26
FY 2016	711,193.66	11,133.00	722,326.66
FY 2017	719,245.55	11,346.00	730,591.55
FY 2018	523,087.65	11,567.00	534,654.65

5. What progress has been made regarding cost sharing of the new 8th floor meeting and office space?

ANSWER: We have an informal agreement with the National Council on Disability (NCD) to allow them to use the space on an intermittent, occasional basis (four times a year for two-day meetings) and reimburse us for using the space. The NCD occupies space on the 8th floor of our building. NCD is a small agency (9 staff and a Board of 15); they meet quarterly. They have met in hotels in the past but would like to meet in the new space. We are preparing a memorandum of understanding to let them use the space and reimburse us for the use of the space during those times (and for us to be able to retain the money in our budget) based on our understanding of 40 USC 586, "Charges for Space and Services". We are confirming our understanding with the General Services Administration, Public Buildings Service. As a member of the Small Agency Council, we also intend to provide the space to accommodate some of its meetings and trainings. While we will not receive reimbursement for the space, the Small Agency Council is non-appropriated and relies on the provision of funding and meeting space from member agencies to conduct its activities.

RESEARCH

6. Please provide a table showing what research projects you intend to fund, and the associated estimated cost, with the $400,000 request in FY 2011.

ANSWER: See the table below.

2011 Research Budget	
Projects	**Estimated cost**
Regulatory Assessments	
Information and Communication Technology	50,000
Medical Diagnostic Equipment	25,000
Shared-use Paths	50,000
Outdoor Developed Areas	50,000
Opportunities Fund	25,000
Technical Assistance	
ADA and ABA Accessibility Guidelines on-line manual	50,000
Public rights-of-way	25,000
Passenger vessels and transportation vehicles	25,000
Research	
Rollability of outdoor surfaces	100,000
Total	**400,000**

7. Does a backlog of research projects exist? If so, please describe and estimate the costs of this backlog.

ANSWER: Most of our projects begin with a synthesis to set context and identify next steps. Follow-up research is scheduled in phases over several years because of funding availability. Fully half of the Access Board's FY 2010 and 2011 research funding is committed to the costs of regulatory assessments required by our rulemaking agenda. This has required us to delay the start of 5 projects into FY 2012 or beyond. These previously recommended projects include: expanding the FY 2007 cross slope research project to include subjects who are amputees; graspability of handrails; cognitive issues in wayfinding; telephone clarity; and remote infrared signage at airports.

FACILITATORS/CONTRACTORS

8. Please discuss the $21,000 drop from FY 2010 enacted to the FY 2011 request.

ANSWER: In January 2010, the Board completed a 10-year contract for seat-management services. In FY 2010, we hired a consultant for $21,000 to assist us in making informed decisions on the issuance of new information technology contracts. This included providing us with data on the latest trends and best practices. We also have used the contractor as we develop web-based animation, which will assist design and construction professionals, who use our website for technical assistance. Finally, we are using the contractor to provide information on options available to us, as we begin the process of updating our complaint tracking system to move us from an outdated database platform to one which is more compatible with current versions of Microsoft Windows and will provide us with greater tracking and reporting capabilities. At this time, we do not anticipate that the consulting services provided by this contractor will continue into FY 2011.

INFORMATION TECHNOLOGY SUPPORT SERVICES

9. Both the FY 2010 enacted and FY 2011 request for Information Technology Support Services are substantially higher than the FY 2009 enacted. Access Board's budget states that these increased costs are associated with bringing IT service in-house, rather than doing a new external contract, as this was determined to be cost effective. What annual costs are anticipated when this transition period concludes? When will that be? Please provide a summary of the cost/benefit analysis that lead to the decision to bring the services in-house.

ANSWER: In FY 2009, the Access Board's actual costs for seat management contract services totaled approximately $350,000, which was greater than the enacted amount of $300,000. Upon doing a cost/benefit analysis, we concluded that significant cost savings can be achieved by bringing the information technology (IT) services in-house. This will allow us to better adapt to constant changes in information technology and the types of technology which best suit our goals. Independence from a contract covering all aspects of our IT will also provide us with the capability to compete the contracts and allow us to better control our costs. We continue to anticipate that most of the transition process will be completed by the end of FY 2011. We do anticipate, however, that we will have unbudgeted costs to meet security requirements necessary to comply with Federal Information Security Management Act (FISMA) and Office of

Management and Budget directives, which were not part of our seat management contract. While we have attempted to meet these requirements within our prior year budgets, we still are working to fully comply and will need to request funds to continue toward that goal. However, despite this, we expect our overall annual costs to be less than under the seat management contract. The chart below illustrates our anticipated ongoing costs for IT.

Description	**Cost**
Servers (email, file servers, continuity of operations)	35,000
Internet service	48,000
Intrusion detection/Virtual private network	13,000
FISMA compliance	60,000
IT refresh	27,000
Software subscriptions	20,800
Equipment maintenance	5,600
Printer/copier leases	9,000
Phone system support/maintenance	21,000
Mobile telephone equipment/services	12000
Website	58,500
Total	**309,900**

PATIENT PROTECTION AND AFFORDABLE CARE ACT

10. With the passage of the Patient Protection and Affordable Care Act, Access Board is charged with developing standards for medical diagnostic equipment within 24 months. Please provide a chart estimating the costs you anticipate with this process and the fiscal years in which you expect to incur them.

ANSWER: On March 23 the President signed the Patient Protection and Affordable Care Act into law. It gives the Access Board 24 months to develop standards for medical diagnostic equipment. We plan to do this by first issuing an advance notice of proposed rulemaking (ANPRM) followed by 2 information meetings to get direct feedback from the public. We would then publish a proposed rule (NPRM) which requires that we do a regulatory assessment and then a final rule (with another regulatory assessment). We conservatively estimate the cost of this approach at $125,000 (excluding staff time). The following table shows the costs.

Item	**Estimated cost**	**Fiscal Year**
Federal Register notices		
ANPRM	1,500	2010
Meeting notice	500	2011
NPRM	11,500	2011

Final rule	9,000	2012
Board member travel		
	2,000	2010
	6,000	2011
	2,000	2012
Board member salary		
	2000	2010
	6000	2011
	2000	2012
Regulatory assessment		
NPRM	35,000	2011
Final rule	15,000	2012
Technical assistance materials	25,000	2102
Other	7,500	2011
Total	**125,000**	

11. With these additional duties for the Access Board in mind, in what ways, if any, would Access Board revise the FY 2011 budget request?

ANSWER: We would revise our request upward by $66,500 to cover the expected costs in FY 2011.

FY 2010 ENACTED

12. Please discuss the use of the additional $300,000 Access Board received in the FY 2010 budget over the FY 2010 request.

ANSWER: The additional funds have allowed us to advance our rulemaking agenda at a much faster rate than previously anticipated. We have contracted with the Volpe National Transportation Systems Center to perform regulatory assessments for the passenger vessels, transportation vehicles, and public rights-of-way rulemakings. We anticipate overall expenditures for the three regulatory assessments to exceed $200,000. Our expectation is that notices of proposed rulemaking will be issued for each of these in late FY 2010 or early FY 2011. The remaining funds allowed us to complete work with members of our advisory committee on electronic and information technology. We expect to issue an advance notice of proposed rulemaking within the next few months. Also, we covered some of the costs related to the participation of several of our board members in working with the Election Assistance Commission on developing standards for ensuring polling-place accessible.

RULES REQUIREMENTS

13. Please provide a short summary of the applicable sections of law which charge Access Board with developing rules and standards.

ANSWER: The Board is responsible for developing guidelines under the Architectural Barriers Act, the Americans with Disabilities Act, and the Telecommunications Act Amendments for ensuring that buildings and facilities, transportation vehicles, and telecommunications equipment covered by these laws are readily accessible to and usable by people with disabilities. The Board is also responsible for developing standards for electronic and information technology procured by Federal agencies and for medical diagnostic equipment under of the Rehabilitation Act. The applicable sections of law include:

- minimum guidelines and requirements for the standards issued pursuant to the Architectural Barriers Act of 1968 (Public Law 95-602, November 6, 1978; Rehabilitation, Comprehensive Services, and Developmental Disabilities Amendments of 1978, section 118; see 42 USC 4151 et. seq.)

- minimum guidelines that supplement the existing Minimum Guidelines and Requirements for Accessible Design for purposes of titles II and III to ensure that buildings, facilities, rail passenger cars and vehicles are accessible, in terms of architecture and design, transportation, and communication, to individuals with disabilities (Public Law 101-336, July 26, 1990; Americans with Disabilities Act of 1990, section 504; see 42 USC 12131 et. seq. and 12181 et. seq.)

- guidelines for accessibility of telecommunications equipment and customer premises equipment (Public Law 104-104, February 8, 1996; Telecommunications Act of 1996, section 255; see 47 USC 255)

- standards for accessible electronic and information technology (Public Law 105-220, August 7, 1998; Rehabilitation Act Amendments of 1998, section 508; see 29 USC 794(d) et. seq.)

- standards for accessible medical diagnostic equipment (Public Law No: 111-148, March 23, 2010; Patient Protection and Affordable Care Act, section 510; see 29 USC 791 et. seq.)